Volume 75 Number 11
November 2007

Amateur Radio

The magazine for AUSTRALIAN radio amateurs

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Ron Fisher VK3OM reviews the

FT-450

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The Yaesu FT-450 all mode HF and six metre transceiver with IF DSP reviewed by Ron Fisher VK3OM. Photo by Bill Roper VK3BR. See story on page 8.

Contributions to Amateur Radio

Amateur Radio is a forum for WIA members' amateur radio experiments, experiences opinions and news. Manuscripts with drawings and/or photos are always welcome and will be considered for publication. Articles on disc or email are especially welcome. The WIA cannot be responsible for loss or damage to any material. A pamphlet, 'How to write for Amateur Radio' is available from the National Office on receipt of a stamped self-addressed envelope.

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Disclaimer

The opinions expressed in this publication do not necessarily reflect the official view of the WIA and the WIA cannot be held responsible for incorrect information published.

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A radiocommunication service for the purpose of self-training, intercommunication and technical investigation carried out by amateurs; that is, by duly authorised persons interested in radio technique solely with a personal aim and without pecuniary interest.

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Editorial Comment

Peter Freeman VK3KAI

I recently had a busy week away from home in Adelaide and Mildura, related to my work.

Any thoughts of a little spare time between organised sessions at either venue were largely folly. In Adelaide, there was a significant distraction occurring just outside the Convention Centre – the Tasting Australia event was in full swing, with a variety of food, wine and beer on offer for purchase or some free tastings. Strolling back to the next conference session after a break, I was accosted by David VK5KK – a delightful encounter, as we had not met in person for a couple of years. The meeting was brief, but pleasant. A few days later, I was quietly investigating the local tourist information centre in Mildura when I hear a voice from behind: "Don't I know you? KYF." It was Gary VK3KYF, President of the Sunraysia Radio Group Inc. We had met previously – both Gary and Noel VK3FI had attended a GippsTech conference. The result of this encounter was a pleasant evening spent with Gary, Noel and their wives over some excellent food and wine at one of the local restaurants.

AR equipment reviews

On page 7 in this issue you will find an "Over to You" item received following the publication of the review of the IC-756 Pro III (August AR). Whilst I do not agree with some of the comments/assessments made by the author, Brian does have some valid points that are worth clarification.

Conducting thorough reviews of all aspects of any items of equipment considered requires considerable time and access to resources, especially sophisticated test equipment and experienced personnel to conduct the tests. The Publications Committee (PubCom) discussed the conduct of reviews approximately twelve months ago. Given that all activities of the PubCom are undertaken by volunteers, it needed to consider not just any financial costs but also the time costs of conducting equipment reviews – readers must appreciate that most functions of the WIA are undertaken by volunteers, rather than paid staff. We are not like the ARRL, who have a sufficiently large membership to employ appropriate staff and have a well equipped test laboratory. The WIA simply does not have such resources. However, it does endeavour to act in a professional manner.

To undertake an "objective" review of a typical item of amateur equipment against manufacturer's specifications would take considerable time, delaying publication of any report. The experience of the entire PubCom membership of recent years has been that almost all commercially manufactured equipment has met, within close limits, the manufacturer's specifications. The challenge always is to accurately perform the measurements! Furthermore, it was the collective opinion of PubCom that it was most likely that an item not meeting specification was a faulty item, rather than reflecting exaggerated claims by the manufacturer.

Therefore, PubCom decided that we would not routinely attempt to undertake such objective testing. We decided that most readers would be happy to have reviews that gave perceptions of equipment performance and characteristics, with the reviews undertaken by experienced amateurs. If the item for review did not appear to meet expectations, we could take one of two steps: undertake further tests and/or liaise with the equipment supplier. In all cases, we allow the supplier to comment on the review prior to publication, without any commitment to altering the review text. In the event of the review author/s and the supplier disagreeing, we will publish any comments from the supplier/manufacturer together with the review.

With regard to Brian's comment on the magazine layout, he is welcome to his views. Detailed layout is determined primarily by our publication house, based on the raw material that we supply, with feedback by the PubCom proofing team. Most individuals will often have their own personal view, but the team decides if the supplied material is acceptable. Again – most of us are simply enthusiastic volunteers, not professionals in the publishing realm.

I trust that the majority of readers find these approaches acceptable – comments are welcome.

ar

Michael Owen VK3KI

The changes – two years on

October 19 2007 was the second anniversary of the introduction of the restructure of the Australian amateur licences, and in particular, the introduction of the Foundation licence.

We now know quite a bit about the effect of the changes, in part because we were asked by ACMA to provide some information on the new licence structure, and in particular on the Foundation licence, and so we carefully reviewed the information we had available.

In the two years, the WIA has qualified 1,834 people for the Foundation certificate of proficiency. Up to about a month ago 228 of those who qualified for the Foundation licence have attempted at least one up-grade subject. 195 Foundation licensees have qualified to the Standard level and 36 have qualified to the Advanced level.

One effect of the introduction of the new entry-level licence has been the reversal of the trend of ever reducing amateur licence numbers.

On 30 June 2001, there were 15,017 amateur licenses current in Australia, including repeater and beacon licences as well as people who held more than one callsign. By 30 June 2005, that number had dropped to 14,041. On 3 September 2007, the date of the ACMA data used for the Call Book, the total number of amateur licences current in Australia had risen to 15,326.

We also wanted to know where the people we had qualified came from, and so we took the some 1500 people who had been qualified from March 2006 to the end of September 2007, and that produced the following:

Victoria	516
NSW/ACT	472
Queensland	175
SA	161
Tasmania	72
WA	86
NT	18

We wanted to compare the number qualified in each state with the population in each state, and so comparing the number of people qualified in each state as a percentage of all people qualified in Australia with the percentage of total population in that state using March 2007 ABS figures, giving us Figure 1. We also reviewed the same group of 1,500 by age group, and what we found is shown in Figure 1 below and Figure 2 on the page 4.

This shows the middle to higher age group as the largest group, but we also find that the number of younger Australians undertaking the entry-level examinations is increasing. This age group will be the area where career choices will be made, and the Foundation licence may be a factor in these choices.

We also looked at distribution by gender, and found that of all who sat, 12.6% were female, with a fairly even distribution across all age groups, unlike the males where the preponderance were

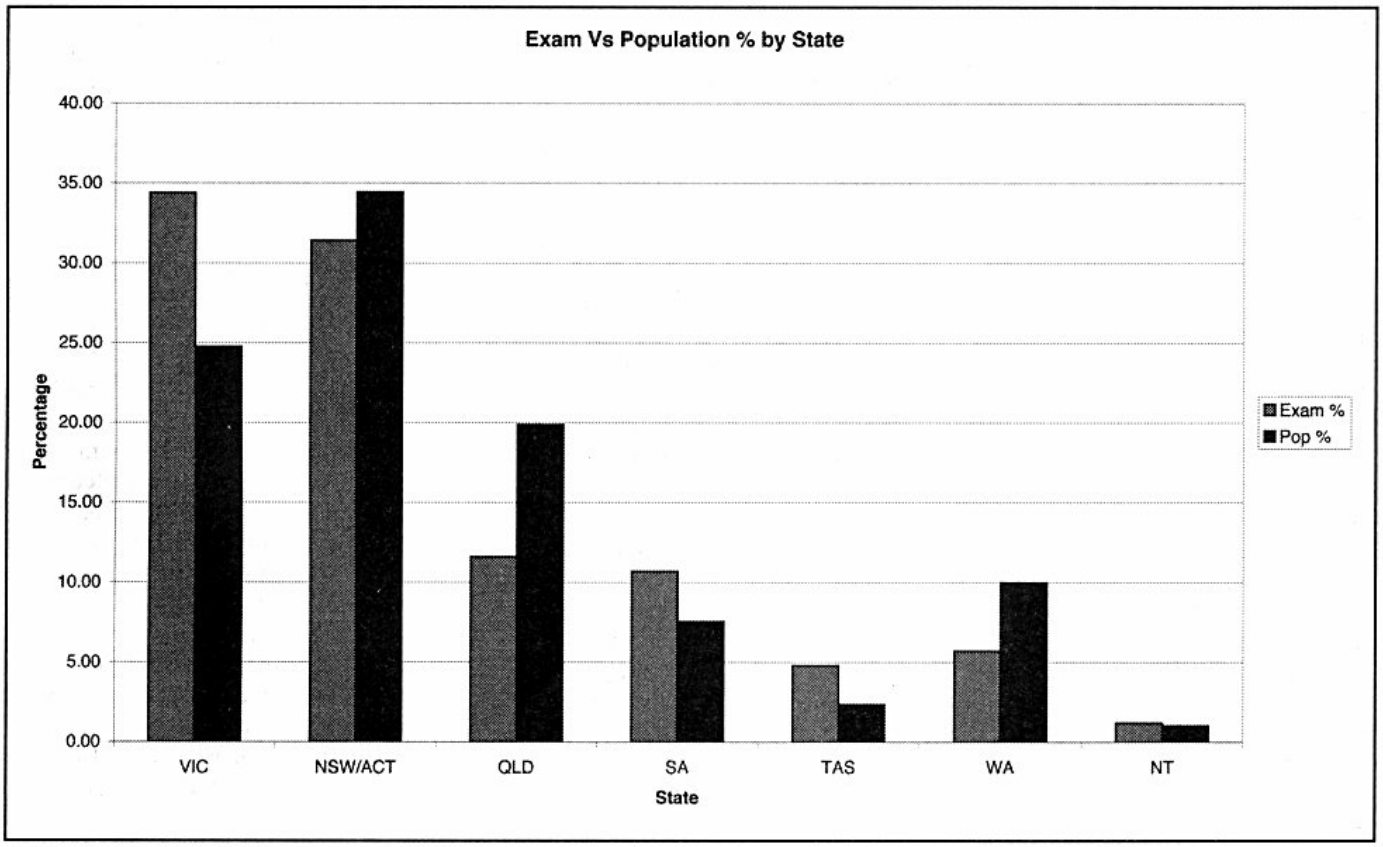


Figure 1

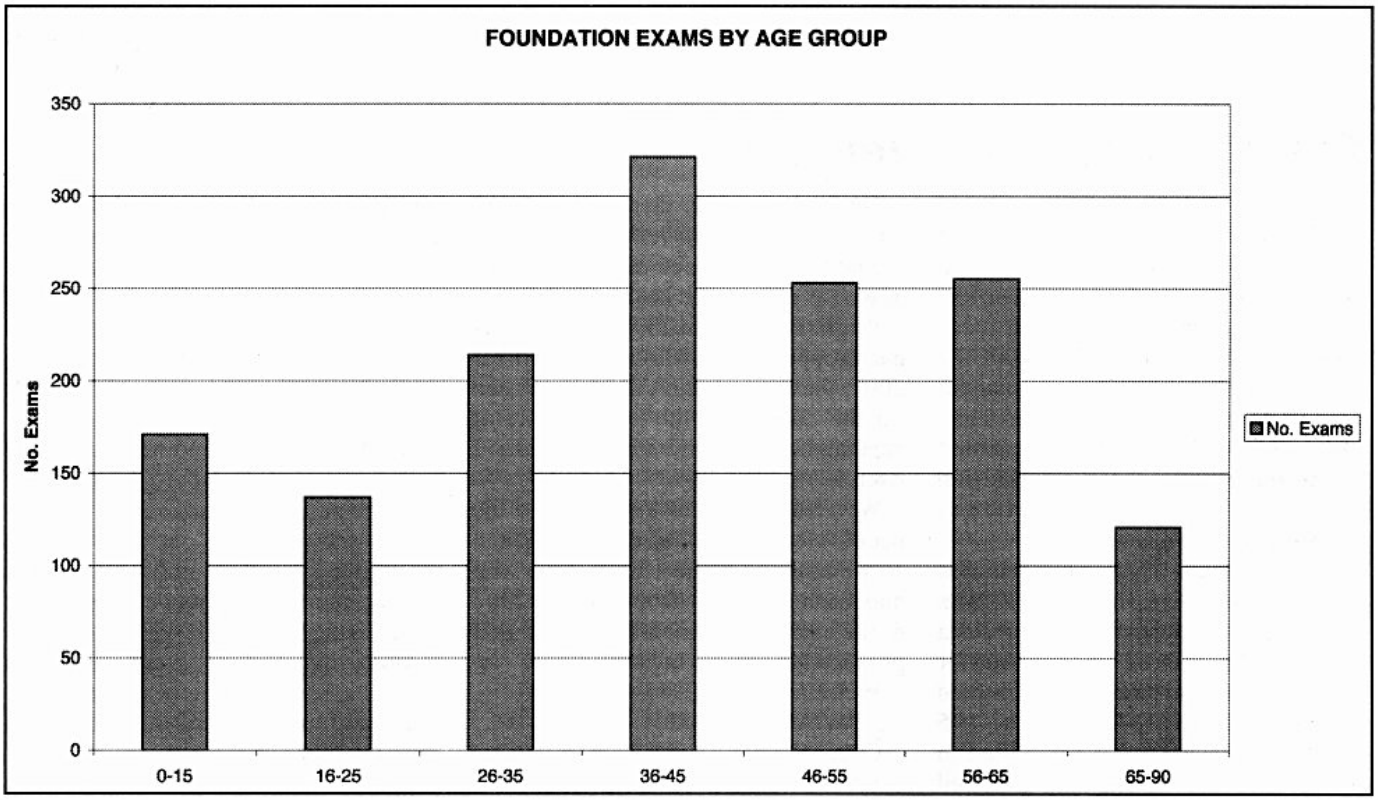


Figure 2

in the middle to higher age groups.

So, what can we say about all of this?

Let me simply repeat the way we expressed our judgement on the material we submitted to ACMA as follows:

While the period since the introduction of the new structure is short, and the constraints of clubs not necessarily moving immediately to offer training for higher levels and other constraints must be borne in mind, it appears that the new amateur licence structure, and particularly the introduction of the entry-level operating licence, the Foundation licence, has been successful in attracting new and younger entrants, and the number seeking to up-grade is satisfactory, and overall, the policy objectives of the changes have been achieved.

ar

Foundation licensees cannot use digital voice modes: ACMA

Believing it desirable that Foundation licensees embrace the new modes with the emergence of digital technologies, the WIA has sought clarification from ACMA, requesting a number of changes to the Foundation conditions.

Schedule 3A of the Amateur Licence Conditions defines the modes that may be used by Foundation licensees, and does not include the appropriate emission mode designator for digital voice modes such as D-Star. D-Star requires the callsign to be embedded in the transmission stream to use a voice mode.

The WIA formed the view that requiring the callsign to be embedded to enable voice communication, essentially no different from other permitted voice modes, was not a difference that should exclude Foundation licensees from using these new modes. Further, it did not change the character of the licence as an entry-level licence. Accordingly, the WIA approached ACMA seeking a further amendment to the LCD to permit such use.

The WIA argued that as the Foundation licensee can only use a transmitter that has "been manufactured commercially" the programming of the necessary identification is no more difficult a task than programming a mobile phone, and that the additional information required for qualification was minimal.

The WIA proposed the addition of an appropriate emission mode designator for Foundation licensees in the 144.000 to 148.000 MHz and 430 to 450 MHz bands, with the additional provision in paragraph 29 of the LCD to permit, if the emission mode was digital voice, any data necessary to enable the use of the voice mode.

ACMA has now responded to the WIA's approach, rejecting the proposal

ACMA argues that the entry-level licence is meant to be easy to obtain. The amendment proposed to permit digital voice mode "would require expansion of the current syllabus and add a level of complexity to the qualification."

ACMA also contends that adding digital voice modes would erode the difference between the Foundation and the other higher levels of licence, and that the digital voice mode would require the transmission of digital data, incompatible with the Foundation licence and finally, a further amendment as requested would create further delay in the implementation of the outcomes announced 2004.

The WIA is surprised by the response from ACMA.

WRC–07 started on 22 October

The ITU's World Radiocommunication Conference 2007 (WRC-07) commenced in Geneva, Switzerland on 22 October and will run until 16 November.

Keith Malcolm VK1ZKM left for Geneva on 19 October. Keith will be a member of the Australian delegation to the WRC, nominated by the WIA and representing the amateur services. Keith's travel and other costs are being met by the WIA.

There are 3 items of particular interest to amateurs on the agenda for the WRC.

One is an agenda item that would allow the allocation of the band 7.2 to 7.3 MHz in Regions 1 and 3 to the amateur service, achieving a world wide 7 to 7.3 MHz band. Another matter is the proposal for an allocation to the amateur service of the band 5.260 to 5.410 MHz. The final proposal for a secondary allocation for the amateur service 135.7 to 137.8 kHz with a 1 watt e.i.r.p. power limit does seem to have fairly general support.

"We are lucky to be represented by such an experienced and qualified person, and I am sure that Keith has the support and best wishes of all Australian amateurs" said WIA President, Michael Owen VK3KI.

Keith will be reporting regularly to the WIA, and the WIA will be passing on as much information as possible about this important conference.

Second birthday of Foundation Licence

The second anniversary of the introduction of the Foundation licence in Australia occurs on 19th October 2007.

Just short of a year ago, the WIA announced that 1,000 people had qualified for the Foundation licence.

A year later, on 19th October 2007, 1,834 people have been qualified by the WIA for the Foundation Licence.

"Not quite 1,000 a year, but very close" said WIA President, Michael Owen VK3KI. "A week ago I attended a lunch for the Presidents of the Queensland amateur radio clubs and the enthusiasm among those present for promoting amateur radio and the entry level licence in Queensland, persuades me that there is every prospect that in a further years time we may well be close to 3,000 people qualified for the Foundation licence."

Icom gives D-Star repeater to the WIA

Icom (Australia) Pty Ltd has given to the WIA a D-Star repeater to be located at Olinda in the Dandenong ranges, to serve the greater Melbourne area.

D-Star is a digital protocol developed by the Japanese Amateur Relay League (the JARL) and stands for Digital Smart Technologies for Amateur Radio.

The repeater will be licensed as VK3RWN and will operate on the 2 metre, and 70 and 23 cm bands. It will take full advantage of the facilities offered by D-STAR, including the opportunity to interlink with the extensive D-Star network, using the Internet as the carrier.

"The WIA has gratefully accepted this generous gift and thanks Icom Australia for its support" said WIA President Michael Owen VK3KI. "Icom has been a great supporter of the WIA, and this is another example of that support."

2007 Queensland Presidents Lunch

The Queensland Advisory Committee continued the tradition of an annual Presidents Lunch at the Geebung RSL Club on 13 October 2007.

The lunch was attended by the presidents or other representatives of some 17 clubs from Townsville in the North to the Gold Coast in the south, with members of the Queensland Advisory Committee, WIA President Michael Owen VK3KI, WIA Vice President Ewan McLeod VK4ERM and WIA Secretary Ken Fuller VK4KF.

Michael gave a report on the current WIA activities and the attraction, training and qualification of new amateurs across Australia.

It was generally agreed that the number seeking to up-grade was very encouraging and there was considerable discussion of the best means of attracting new amateurs.

ar

A handy base for portable antennas

Ron Holmes VK5VH.

Many years ago I bought a war disposals signalling lamp with a folding tripod base. I used this base to support a portable centre-loaded quarter wave vertical antenna for holiday operations. The earthing arrangement then consisted of a couple of pieces of copper tubing about 60 cm long which I hammered into the ground below the tripod and connected to the outside shield of the coax. This arrangement worked very well in most locations.

However there were times when it was not easy to find the requisite soft earth into which to hammer the tubing. Sometimes I could use the vehicle or caravan for an earth or string out a radial or two. But the idea eventually occurred to me that the tripod itself could be wired up to form the lower half of the antenna. A couple of metres or more of wire was strung around the tripod legs about 10 cm above the ground. This was connected to an open-wire loading coil mounted under the top of the tripod. Clips were used to tap the coil for various frequencies. Results seemed much the same as before.

There was little point in suggesting to other hams that they get hold of a signalling lamp tripod. I doubt if they exist these days. So I have now built up a similar tripod with material easily available and this article presents, not so much the same thing that I built, as the general idea. You may find better ways of doing it.

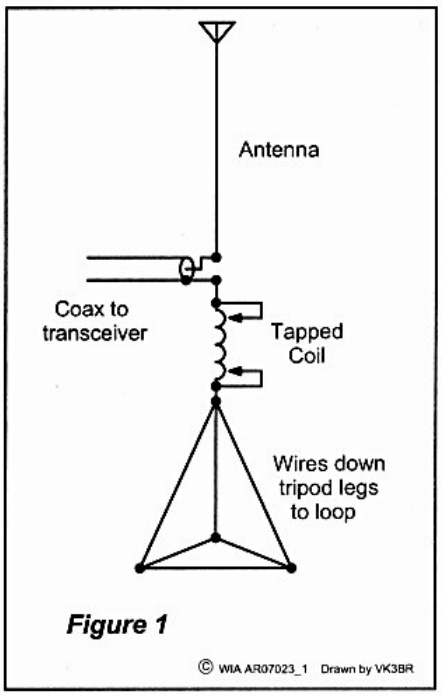


Fig. 1 – Schematic circuit

Tripod construction

Photo 1 shows the erected tripod. The legs are made from 70 x 35 mm dressed pine, 1 metre long. They are attached by hinges to the cap, which is 13 cm square.

You may consider that the legs would look better and be more convenient using shorter lengths of PVC pipe, fitting inside one another and extended for use. They could be length-adjusted by drilling a series of holes through the bottom few centimetres of the top section and the top few centimetres of the bottom section. A pin would then go through both sections to lock them in place.

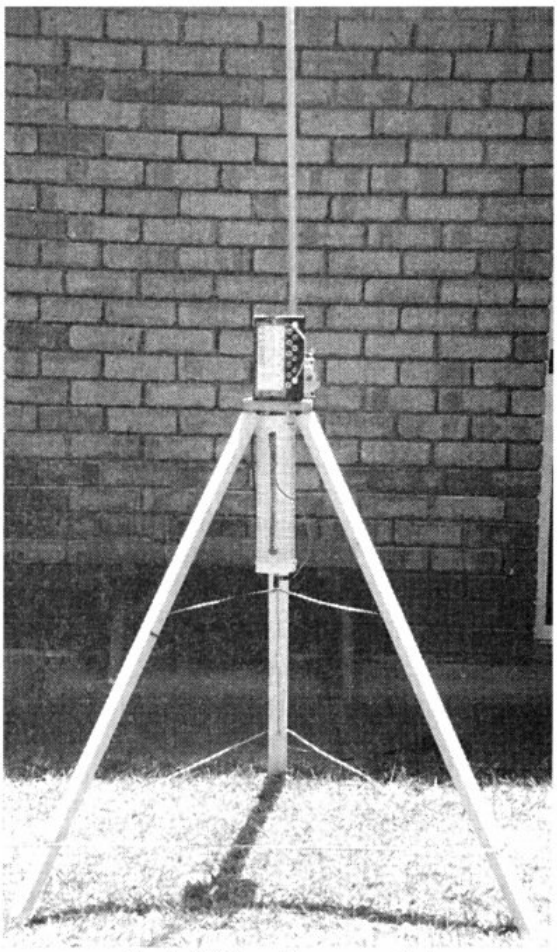


Photo 1. Tripod base, erected

The earth system

The earth loop, some 2 metres long, is shown in the photos, strung between the three tripod legs about 10 or 15 cm above ground, and so capacitively coupled to it. There are three leads from the bottom of the loading coil, each running across to a tripod leg then down it to connect to a corner of the earth loop. The electrical system is shown schematically in the circuit of Figure 1.

The coil

My coil is wound on a PVC tube 30 cm long and about 8 cm outside diameter with caps each end. This material is available from hardware stores. A slit 1 cm wide runs down each side of the former starting and ending about 2 cm in from the ends. I made saw cuts across this every 5 mm to hold the turns of the bare wire and enable tapping.

The coil has 20 turns close-wound at the top, and 35 turns spaced 5 mm apart below this. I used enamelled copper wire about 0.8 mm diameter for the close-wound section and bare copper wire bought at Cheap as Chips for the lower part, for ease of tapping. It was too thin

so I twisted two lengths together. A lead with an alligator clip at each end of the coil allows the use of however much inductance is needed to get the lowest SWR reading. Of course you can use any type of coil you like so long as it has sufficient inductance for the job.

The coil shown in Photo 1 is an earlier version, comprising only 5-mm spaced windings. It would not tune up on 80 metres without adding a variable capacitor, which is just visible behind the black box. The remedy was to add the additional close-wound section mentioned above.

Conclusion

What I am suggesting is the general idea of a base for portable antennas, with a built-in earth system. My XYL made a long bag of japara cloth into which everything is stowed, and which lies neatly just inside the boot of the car.

The antenna mounting arrangements can be adapted to suit your own requirements. My system has an SO-239 coax socket mounted under one corner of the tripod cap, with its centre pin connected to the antenna and its body to the top of the loading coil.

In Photo 2, the base is seen in use on the foreshore at Robe in the south-east of South Australia. The antenna here is a larger version of the tapped base-loading model used in my 'Shack in a Brief Case'. In this case, the antenna consists of two one-metre lengths of aluminium tubing, one fitting inside the other, plus a telescopic whip on top. It tunes up on all bands except 160 metres. (For 'Shack in a Briefcase', see AR July 2002 or look it up via the WIA web page (wia.org.au/armag/2002/AR_July02_pp4-7-9-10.pdf)).

ar

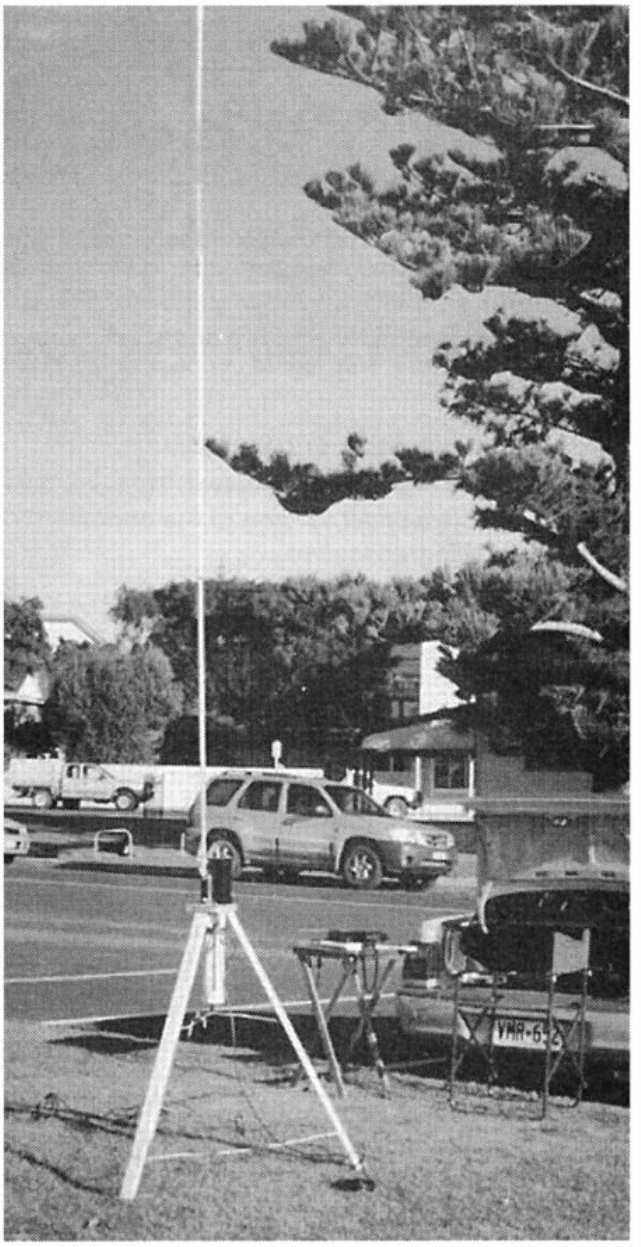


Photo 2 – Portable base in service

Over to you

Equipment review in August 2007 AR

Much of the material appearing in recent AR magazines has been well written in appropriate style and good English. But ...

I wonder whether there has been a little too much licence given to the reviewers of the Icom IC-756 Pro III?

I work as a professional writer. When I am asked to review an item, I compare the performance of the item with published or industry-standard specifications. This particular review fell a long way short of such. It was little more than a pair of fire-siders wind-bagging. Some of the material was pure marketing waffle - probably taken straight from the manufacturer's material - but most was pure, unsupported and untestable opinion.

Why such a big photo of the microphone, to which two small paragraphs were devoted, while the remaining 4.5 pages were supported by three photos, two of which had insufficient detail to support any of the text, and the other which was accurately described as containing nothing?

What is your editorial policy?

Brian VK2GCE

(Ed: see this month's Editorial Comment)

Equipment review

The Yaesu FT-450
all mode HF and six metre transceiver with IF DSP

Ron Fisher VK3OM.
Photos by Bill Roper VK3BR.

The FT-450 - an overview

No, not just another HF transceiver. This one is different in all aspects of design and presentation. It is in some respects a small version of the popular FT-2000, sharing the IF signal processing and many other features of this transceiver.

It is advertised as a "compact" transceiver. The actual size is 229 mm wide, 84 mm high, 217 mm deep and it weighs 3.6 kg. Interestingly, the front panel is the same size as the old FT-7, one of the first solid state transceivers that Yaesu produced. I am sure many readers will remember and are still using this wonderful old transceiver.

So what does the FT-450 have and where does it fit into the scheme of things? Looking at the last question first, I see the FT-450 as a compact home station rig or for use as a portable, but perhaps not as a mobile. A mobile bracket is offered as an option which might be useful if you drive a bus, but as the front panel cannot be made to operate remote from the body, I don't think it would be practicable to easily fit it into a normal car.

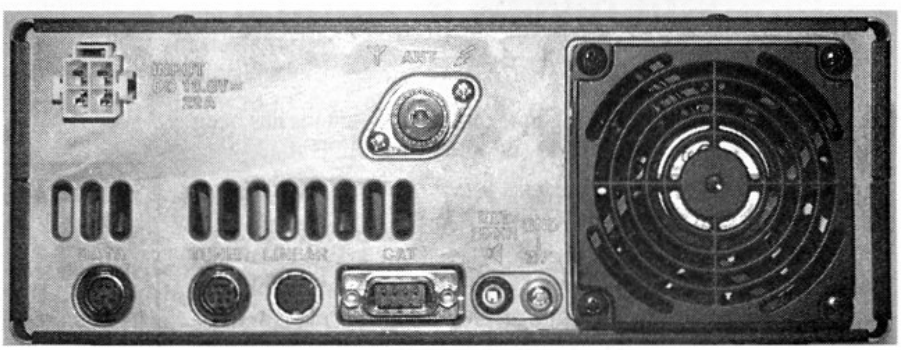
One change introduced in the FT-450 is a new DC connector in place of the six pin plug and socket that we have become used to over many years. This is a four pin plastic plug which Vertex tells me is the new "standard". I must say that Yaesu is not the only manufacturer to adopt this plug. I have to wonder if the various companies get together to decide on these changes.

The FT-450 is a rugged, multi band multi mode transceiver that provides coverage of the 160 to 6 metre amateur bands. There is also a full general coverage receiver tuning from 30 kHz to 56 MHz. It runs 100 watts output on all modes except AM where the power is reduced to 25 watts. An external 13.8 volt power supply rated at 22 amps is needed.

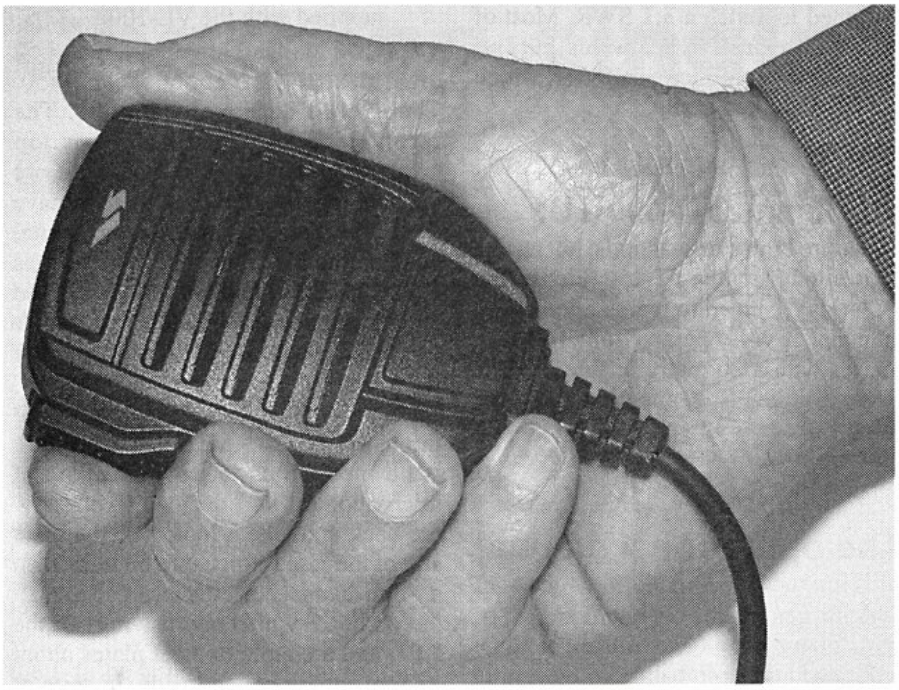
An inbuilt automatic antenna tuner, the ATU-450 is available as an optional extra and this can be installed by Vertex on purchase of the transceiver. This tuner was fitted to the transceiver supplied for our review. Other antenna tuners are available as options which I will describe later in this review. The transceiver comes with a hand held microphone, a DC power cord and a comprehensive instruction manual which comes with a complete set of circuit diagrams.

A notable feature is the liquid-crystal display which presents a very large and clear frequency readout. A bargraph is calibrated as an "S" meter, transmitter power output meter, an SWR meter and an ALC indicator. Another display shows the status of the DSP setting. These include the contour setting, which allows the shaping of the receiver pass band to

FT-450 front with mic



FT-450 back panel



A close-up of the microphone supplied with the FT-450

enhance the receive audio quality, the position of the notch filter, the degree of IF selectivity, the amount of noise reduction selected and the position of the IF shift control. The third section of the display depicts a block diagram of the receiver and shows which of the various parameters have been set by the operator. These include the front end attenuator, the intercept point optimization selector, the noise blanker and AGC status.

Like all modern radios, the FT-450 is menu driven. There are actually 65 menu items, most of which are set and forget. To make thing easier, the menu mode can be set to display all 65 items or an abbreviated set of the 19 most used items.

A technical overview

Starting at the front end, the signal goes through the selectable 20 dB attenuator. Then through the eight band pass filters to reduce out-of-band interference. The RF stage has two 2SK520 JFETs before going into the first mixer. The RF stage can be bypassed by switching on the IPO. The first IF frequency is 67.899 MHz and this is preceded by the four pole 10 kHz roofing filter which reduces adjacent signal interference. The second IF at 24 kHz is where the magic of the DSP takes place.

...an excellent little transceiver, let down by a few very simple omissions

The FT-450 on the air

The first impression when using the transceiver is the small size of the tuning knob. Not only is it small, it is hard to get used to. There is no spinning action to help. Also with the lack of a tilt bail to raise the front of the transceiver the bottom of the knob is very close to the desk. One solution is to use the DSP selector control which enables you to zip up and down the bands in pre-selectable steps. The received audio on SSB through the internal speaker was quite acceptable, but perhaps a little lacking in both high and low frequencies. Switching to AM, this was even more noticeable. At this point, I decided to run a frequency response test to see what was going on. With the AM band width set to the widest point of 9 kHz, I noted the following: With 1 kHz set for reference at 0 dB, 250 Hz -6 dB, 300 Hz +2 dB, 600 Hz +1.5 dB, 2200 Hz -6 dB and 3000 Hz -20 db. No wonder the audio sounded restricted.

Putting it on SSB, one of the first things I listened for was the digital buzz. I had been alerted to this from reports from the US, and sure enough it was there loud and clear. Whilst it does not block out the transmit audio, it is none the less most annoying. In later tests, using AM on 160 metres, the buzz was not reported.

It seems that this problem is confined to early model transceivers and only on SSB. One wonders!

One feature that was appreciated is the digital microphone equalizer. After battling with others where there might be hundreds of settings, this one has ten preset functions and these are shown graphically on the display. You can choose flat, bass boost or cut, middle boost or cut and high end boost or cut or a combination of any of these. A few on air tests will soon sort out the best setting for your voice. Tests I carried out on air indicated that for AM, the flat position "0" was best, while for SSB position "4", flat bass and middle with high boost was preferred.

The speech processor is actually in operation all the time unless the low setting of the microphone gain has been selected. Slightly strange idea but it works very well.

Comparing the receive capabilities to my FT-1000, I would consider the FT-450 to be a shade better when compared on 40 metres, listening to European DX in the late afternoon. This is where the selectable DSP comes into its own.

The digital noise reduction was most effective in reducing the general background noise that seems to plague 40. The noise blanker also seems to be very effective particularly when used with the DNR. Strong signal handling was excellent as was the rejection of these same signals when trying to pull a weak "G" out on an adjacent channel.

Another useful feature is the voice readout. This needs to be set up in the menu and from there a push of the "voice button" gives the frequency, mode and "S" meter reading. A very handy feature for visually impaired amateurs. One thing to watch when using menu mode is that the tuning will be locked. Just push and hold the "F" button for one second and get back into VFO mode. I have to say that I got caught on this one a few times. However another similar experience is worth noting. If you are using AM mode, and tuning below 1.8 MHz, the tuning will lock. You are expected to use the DSP/SEL knob to tune in steps. This is the default setting in the menu. Once you know, this can be changed easily to produce a normal tuning output. I got caught on that one too.

The ATU-450 internal auto antenna tuner appeared to work well. It is designed to match a 3:1 SWR. Most of my antennas are well below this, but I set up an ATU to produce a 3:1 SWR which the FT-450 fixed easily.

A quick description of the FC-30 and FC-40 ATUs

These are both external units, but can be controlled from the FT-450. Firstly, the FC-40 is designed to match a long wire antenna. It will operate from 160 to 6 metres with a 20 metre or longer wire. Secondly, the FC-30 appears to have the same matching range as the ATU-450. Note that neither of these units was supplied for review.

The operational manual

This runs to a total of one hundred pages and, in general, is well put together, with many very clear diagrams. You will need to keep it handy when setting up the menu items. It is nice to see that a full set of circuit diagrams is included in the manual. Perhaps the only thing that is missing is an actual index. While the table of contents is very complete, a full index could save time looking for an elusive item.

Conclusions

The FT-450 is an excellent little transceiver. However, it is let down by a few very simple omissions.

- Number one is the curious lack of a tilt bracket to lift the front panel. There is not even one offered as an option.
- Number two is the poor audio response in AM mode. I am sure there are still many of us out there who enjoy listening to AM broadcast stations when the bands are dead. Is a reasonably flat response from 100 Hz to 4 kHz too much to ask for?
- The supplied microphone is very large and has no up/down buttons. Could I suggest the MH-31A8J would have been a much better choice?
- Connecting a linear amplifier other than the very desirable VL-1000 could present a problem. The ten pin mini din plug needed to interface to the FT-450 is not available from Vertex nor from any of the usual electronic parts distributors. I presume that the required connecting cable is supplied with the VL-1000.

Having said all of that, there is a great deal to like about the FT-450. The overall design is top class. The receiver performance in SSB is top notch. Transmit audio is good, but not outstanding. I would have liked to have tried one that did not have the digital buzz on the transmit audio but one was not available. I gather this has been fixed on later models but how did our review transceiver and many others get out of the factory with a problem like this?

I was curious about the supplied microphone, the MH-67A8J. There is no mention as to just what type of microphone it is. I decided to unscrew the back and take a look. For the huge size of the case I expected a bit more than a 4 mm diameter electret insert on a small circuit board with a microswitch for the PTT, and a couple of steel plates about 25 mm square bolted inside. In spite of the impressive grille on the front, the actual opening for the microphone is a slot about 4 mm by 1 mm. However it produces acceptable audio quality.

The FT-450 has been a pleasure to review. I would like to thank the staff at Vertex Standard for their help answering my questions and of course for supplying the review transceiver.

FT-450 pricing and options

FT-450 Transceiver	$1815.00
ATU-450 Internal ATU	
FC-40 Auto ATU	
FC-30 Auto ATU	
VL-1000/VP-1000 1 kW linear	
Extra DC Lead Note: the DC plug is not available as a separate item.	
MH-31A8J Hand Mic	
Carry handle	
Mobile bracket	

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Comment from Vertex Standard (Australia) Pty. Ltd.

Peter,

Thank you to Ron and yourself for giving us the opportunity to have our product reviewed. We apologize for being unable to make a newer version without the digital buzz available for the review. We have no amendments to recommend or comments to publish.

Daniel Cole, Marketing Coordinator

Charging single small cells with solar energy

Grant McDuling VK4JAZ.

I have recently begun making use of electronic devices that are powered by AA and AAA cells and in so doing, became aware of a need that I had to take action to resolve. You see, my MP3 player uses only one AAA cell while a pocket radio I listen to while working is powered by three AA cells.

Now I guess there is nothing unusual in this, but what was proving to be bothersome was the fact that my battery charger only works if I load in two cells at a time; it simply won't charge a single cell at a time. So with the AA cells, for instance, it is fine to charge two at a time, but how was I to charge up the third one without having to invest in enough of them to be able to charge up four at a time when I only needed three?

You get my dilemma.

While browsing through the latest Dick Smith catalogue, I stumbled across mention of the range of solar modules they stock and I began to think. Time to get back to the drawing board, I decided, and to put plans in place for a simple to construct and easy to use solar charger that can handle one cell at a time.

I settled for a 2.0 V 200 mA solar module that cost me all of $14.98, an 1N4004 general purpose rectifier diode to protect the cell from discharging back into the solar module when not charging, and a miniature centre off switch that set me back $3.96. To that I added two battery holders, one for the AAA cell and one for the AA one.

I mounted the components on a simple piece of masonite board, to which I added four legs. Then I simply wired the whole contraption up according to the schematic I knocked together, and I was in business. The results were more than pleasing. I found I could charge up my flat cells in a day. This simple contraption is, of course, an unregulated charger that doesn't require anything other than simple alignment – pointing it roughly in the direction of the sun.

I experimented with differing times and kept notes to assist me in determining just how long I need to expose the cell to the sun to achieve a full charge. I would take the cell out of its holder after four or five hours and measure the voltage with a DVM. I discovered that after around 8

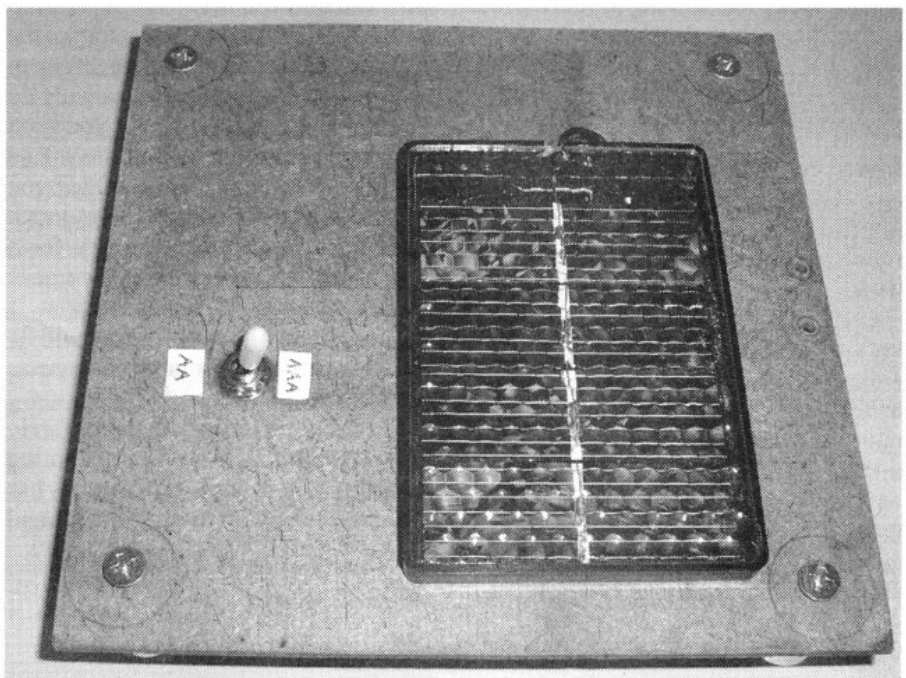

Photo 1

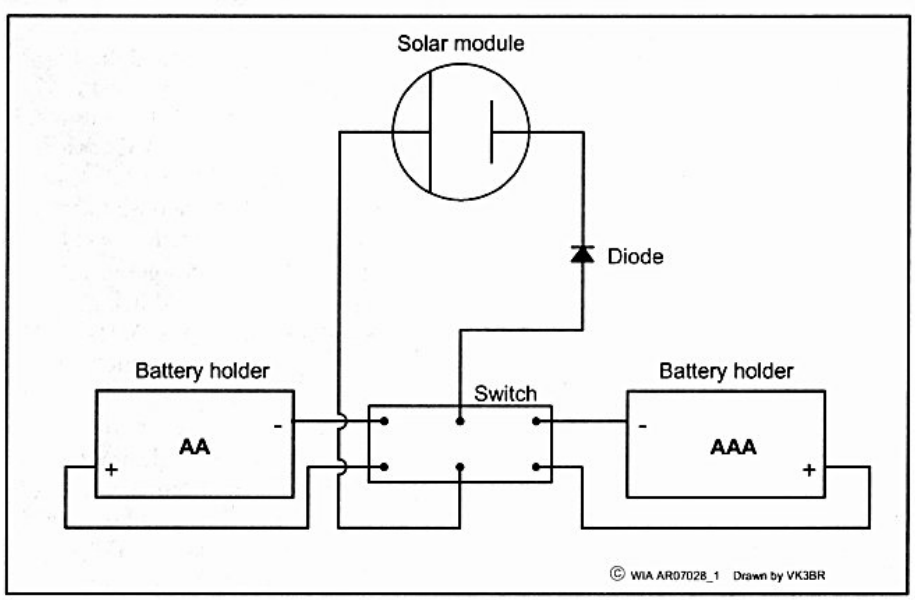

Figure 1

continued next page

A 'Bodgers' way of making PCBs

Reg Carter VK3CAZ

I do admire the beautifully sculpted PCBs that appear in AR along with details of how to produce them using the full facilities of the modern computer.

However, I am one of those difficult people who consider the PCB as merely a replacement for 'rats-nest' wiring and since the track side of the board is almost inevitably hidden on the underside of the device being built I don't really care what it looks like as long as it is correct and sufficiently spaced so as to avoid electrical problems.

Hence my 'Bodgers' way of speedily producing 'one-off' boards.

My method is as follows:

Get a copy of the track side of the board and using transparent tape fasten it to the copper side of the blank piece. Then using a 1 mm drill or whatever size is needed drill all the holes needed. When that is done check it carefully to ensure all the holes have been drilled. This is most easily done by holding it up in reasonably good light and looking through the holes at a stronger light. You will be able to see the tracks and the holes, and when you are satisfied that they are all drilled remove the diagram. Then holding a 3 mm drill in your hand rotate it backwards so as to de-burr the holes. Now using a 'Brillo pad' or similar, clean the copper side thoroughly, follow up with a wash with methylated spirit and allow to dry.

With that done, take the printout of the tracks and using a Pilot brand freezer pen draw in the pads and tracks (I usually do the entire thing freehand but if you want to make a pretty board then use a rule for the long straight tracks). Once you are sure the tracks and pads are drawn correctly leave the 'ink' to dry for a little while and then go over the tracks again to make sure of enough resist. If you only press lightly the tracks will be as narrow as you wish and as dense as is necessary.

Next, dump it in a dish of ferric chloride and watch it whilst agitating the dish. Once the unwanted copper has dissolved remove it from the dish and wash it thoroughly (but do not do this in a stainless steel dish or sink). Dispose of the used ferric chloride properly and the job is done. It may not be a pretty board but it does the job and who ever sees the underside again! Methylated spirits on a rag will remove the resist.

If I am doing a board for a device which is not for high frequencies and for which I have no board layout then what I do is literally transfer the circuit diagram onto paper by drawing all the pads, tracks and component holes as close as necessary for the components. Then fix it to the 'plain side' of the blank PCB and drill the needed holes from that side. After de-burring the holes the tracks can be drawn as before on the copper side.

Crude it may be but it is swift and should you need more than one board just tape the blanks together and drill the whole lot at once.

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Charging single small cells with solar energy

continued from previous page

hours the reading would indicate around 1.2V and bearing in mind that the cell is rated at 1.25V, I decided this was sufficient. However, when listening to my MP3 player, the charge would only be sufficient for around an hour before the player would die. So I needed the cell to be in the sun for longer. I doubled the exposure time and the results are more like what I would expect – 1.33V. And it doesn't seem to matter if the weather is cloudy, good results were achieved just the same.

Because solar chargers are current-limited devices, it is fine to use the charger as is to charge single cells. Just watch for overheating, as the last thing you want is for the cells to get too warm in the Australian sun. They could start leaking. So monitor them as they charge and extract them when the charge is right.

This little solar charger will work for any type of rechargeable cell, and all for the one-off cost of around $20.

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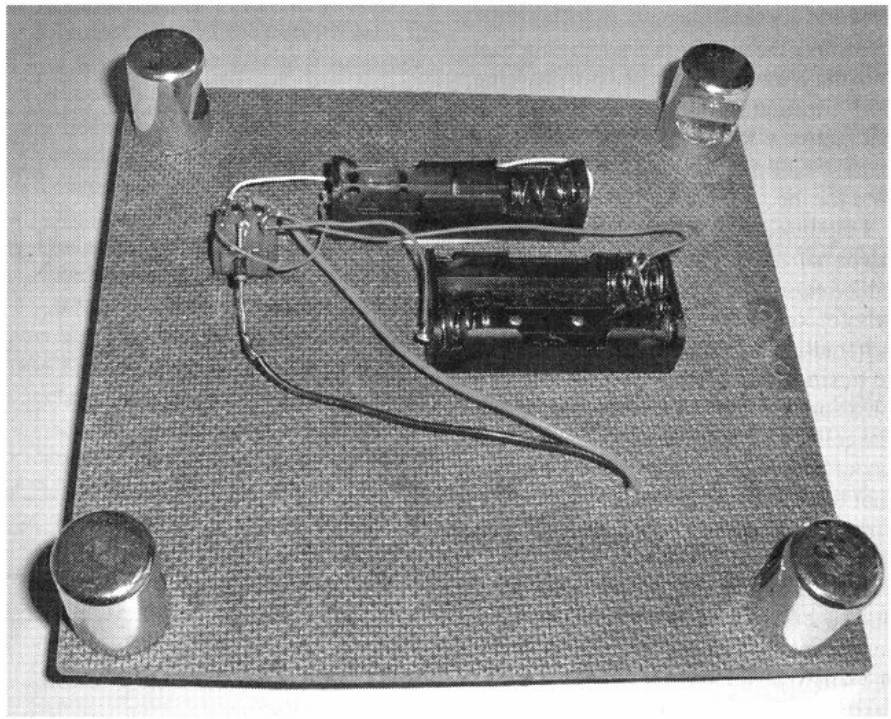

Photo 2

A pretty good antenna for 80 metres

Bill Isdale VK4TWI

As I write this, the sun is at the rock bottom of its cycle with no sunspots visible. The observatories monitoring solar activity are showing images of a smooth ball that could as well be an orange. Without the enhanced reflectivity to HF radio signals that a more active sun brings to the ionosphere, propagation on the high frequency bands is more intermittent. The DX is harder to find but we can still make good use of the existing conditions as we await the return of a solar maximum.

At times like this, an effective antenna and choosing suitable operating frequencies can make the difference between a rewarding operating experience and a loss of enjoyment in the hobby.

Lower frequencies will be reflected even when the ionosphere is receiving very little solar enhancement. In fact, the first few hours after dark are quite suitable for working the lower part of the HF band, with many friendly nets regularly operating. One of the realities of using this band is that at night good results can be achieved out to about 1,500 kilometres from your location by using a radiation pattern that launches the energy straight up so that it will reflect downwards and disperse over a footprint very much like that thrown by a satellite transmission. By about 8 pm or so, SSB on 80 metres will be coming alive.

A positive aspect of the present minimum ionospheric reflectivity is that it provides a suitable environment for critically evaluating an antenna. There is no risk of being misled by getting good results from an inefficient antenna simply because propagation conditions are very advantageous. A requirement to throw as much energy as possible straight up is very different from what is usually done to achieve useful DX performance, where a low angle of radiation is sought. For present purposes, a near vertical incidence sky wave is just what is needed.

Before starting construction, however, it is useful to establish some design criteria. In this case, the band to be operated within is towards the bottom end of high frequency, so an antenna that is an efficient radiator and catcher of energy at these frequencies will be fairly large. This will influence where it can be located. Vertical radiation can be improved by using a low antenna. This is usually much easier to install rather than to attempt to locate it a quarter wavelength or more above the ground as we would be aiming to do if low angle radiation was our goal.

To maximize vertical and near vertical radiation, a half wave dipole mounted relatively low is quite effective. Energy will be directed upwards. There is certainly some loss into the ground as at most locations it is a poor reflector but the result is still satisfactory. This is going to be a pretty good antenna and not a perfect one.

A half wave dipole antenna cut for this frequency will be close to 40 metres in overall length. The design is relatively tolerant of some modification to allow it to fit within the available space and I have found that as long as the middle two thirds is fairly straight and level then taking the ends around a corner or drooping them down is acceptable as long as overall symmetry is not completely lost. The best compromise will be what fits in the space available in such a way that it is about 5 metres up and as straight and as far from obstacles as possible. With only a modest height requirement, creative use can be made of trees and structures as supports, usually at minimal cost. Some suitable exterior grade cord and some insulators to terminate the wire to are very inexpensive and the insulated wire sold by the roll at electrician's supply stores works very well. It is typically used in buildings as earth wire and is both keenly priced and widely available. The stranded wire is sufficiently flexible that it will tolerate the movement that must be expected in the outdoors. The green and yellow striped insulation is thick and strong, breaking the outline sufficiently to provide a reasonable camouflage. The length of each quarter wave section of the dipole will be about 95% of the free space quarter wavelength at the frequency that you intend to use. Some will prefer to shorten the wire to 94% to take account of the effect of the insulation. Top quality hard drawn copper wire and Dacron cord is available

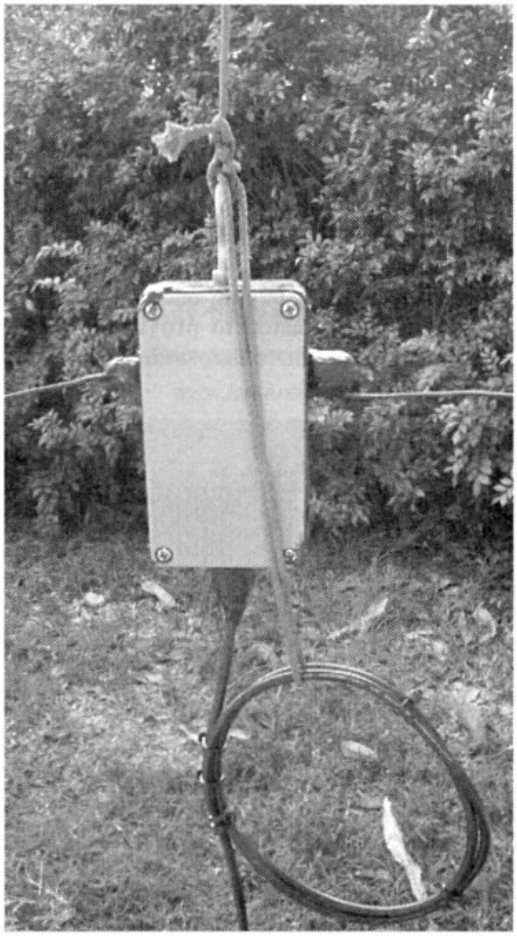

Photo 1: Balun – the cord takes the weight and the sealing tape keeps the weather out.

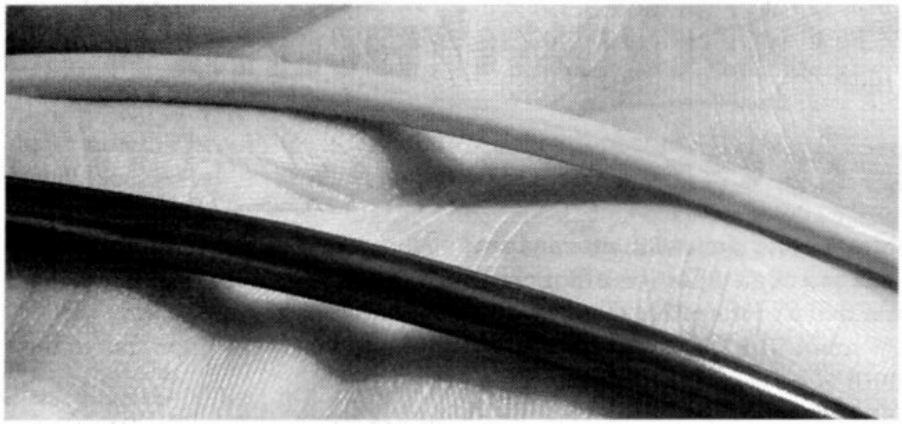

Photo 2: Wire – the light colours blend into light backgrounds.

locally from specialist radio hobby suppliers.

A 1:1 balun at the feed point will provide impedance matching to coaxial cable, which can be led into the shack. I won't go into baluns here other than to say that you can make one or buy a ready made item. If buying one, make sure it has been tested to provide a consistent performance across the HF spectrum and will handle the power you intend to put into it. Be alert that a distant vendor may perhaps innocently supply something that is effective only in a narrow frequency range and the power handling of which is rated at some high value which it might be able to handle, but only for a very short time. Well made baluns are available locally for reasonable prices. These should be properly sealed so as to be water resistant and have an eyebolt on top to make it easy to hang them from a support such as a tree. A quality product which works well across the HF bands will be able to be used again for a variety of antennas as your needs change.

Photo 3: Tree – I have used black wire here so you can see it.

For use on HF, the coaxial cable can be as inexpensive as RG58 and still perform well if the run is not too long. 25 metres or so will have only a little loss. A lower loss cable will of course be more important for longer runs. It is not realistic to expect the connector on the cable to support much weight. To take the weight of the cable some of it just below the connector can be made into a loop of a size that it will comfortably curve into, perhaps about 15 cm in diameter, held in shape with some black external grade cable ties and the loop used to tie the supporting cord to so that it holds the balun and also the weight of the cable.

Connections can be easily weatherproofed with one of the sealing tapes available from electronics stores. The connections of antenna wire to the balun, usually made with a bolt, will maintain the minimum resistance to signal flow if they are protected from the corrosion which exposure to oxygen and the elements will bring. The fittings will probably be stainless steel in a solidly constructed balun so corrosion of that metal will be slight but it is worthwhile to make an effort to keep the connections clean. Stainless steel is not corrosion free but corrosion resistant, the chromium content means that the slight layer of oxidation of the chromium forms a protective surface on the metal. Copper will oxidize significantly more and you may wish to get out the soldering iron and tin several centimetres of the wire at the point where you will be fixing it to the bolt on the balun so as to make it a little easier to work with and less prone to corrosion. Bending the wire into the desired shape before tinning it makes for a better result. I have found that sealing these joins keeps them remarkably clean and therefore optimally conductive for at least several years.

This antenna is purpose built for the task and can be expected to provide a low standing wave ratio [SWR] such that an antenna tuner is unnecessary. It will easily handle as much power as we are able to legally put into it and is very inexpensive. A variation is to dispense with the balun and use, for instance, a commercially available dipole centre, essentially a piece of tough plastic, to join the antenna wire to a length of ladder line. This is a balanced line and has hardly any loss. If it is possible to route it through the air clear of obstacles it can be taken to a suitable antenna tuner which may be used to match the impedance of the radio to that of the antenna over a wide range of frequencies. In the case of a dipole cut for 3.5 MHz it should be able to be operated as a doublet on all of the amateur HF bands above that as well. It may not be quite as good as a purpose built antenna for a particular band, but it will be pretty good, with energy lobes that will vary on different bands so that the directionality of the antenna will

shift, becoming more end-fire at higher frequencies.

It all comes down to the available resources, most particularly space. A wire antenna has the advantage of being inexpensive to construct and the material is readily available. Stringing up some wire is an efficient way to obtain the maximum area for the capture and radiation of signals with minimal wind loading. Another advantage is that the antenna is light and flexible. It can be built to allow for the movement of trees by using a counterweight to hold it over a limb so that it adjusts itself on windy days. Keeping the counterweight close to ground level will avoid having a weight suspended high in the air, a possible safety hazard. Looping the supporting cord over a tree limb and tying it off at a convenient lower location while leaving a coiled up length of cord sufficient to allow the antenna to be lowered and raised again makes for ease of maintenance.

A further major advantage of the wire antenna is its low visual signature. With a little attention to using light coloured wire and insulators against the sky, dark insulators and dark cord in amongst vegetation, the antenna becomes extremely unobtrusive; a real benefit. In my yard, with trees as supports, it proved challenging to take a photo illustrating the completed antenna. Performance is good, cost low and construction easy. Testing has shown that it is more difficult to see a yellow and green covered wire against the sky than if it is covered in black insulation, while black wire and insulators are harder to see than white ones in amongst vegetation. One aspect worth a little consideration is how to get access to suitable places in a tree to use for supporting an antenna. Naturally enough, trees tend to be light and flexible at height so there may not be a good support for a ladder. It would be unwise to climb a ladder where there is a risk of falling. Using something like a slingshot to take a line into a tree brings the risks inherent in having a projectile in the air; it will not always go where you intend. I have had some success with what is called a squid pole. I thought, until I saw one, that perhaps the name came simply from them being used to catch squid. In fact, the tapered collapsible sections when extended look like a giant tentacle. A fishing gear shop is a good source and a 9 metre pole can be had for around $50. I have found that although fairly flexible, they are light and useful for dropping a line with a small weight attached over a branch. The pole stores in its own lowermost section, less than 1 metre in length and, being made of fibreglass, is not conductive, a comforting safety feature. Putting an antenna 7 or 8 metres up a tree while keeping both feet safely on the ground where they belong is worth the cost of the pole.

Safety in the longer term should also be considered when erecting an antenna. It is important to take into account what will happen in the event of a storm. Make sure that if it falls it will do no harm, particularly that it will always be well clear of power lines. As it will be radiating some energy, at least some of the time, have regard to the safety aspects of that and the possibility of interference to other equipment. It is best to avoid having a radiating element close to and parallel with other wires, including those inside a home, whether yours or someone else's, as it is more likely that a current will be induced in a line that is more or less parallel with the radiator. If the antenna is used at the frequency it is cut for, then the SWR will be low and there will be less likelihood of unintended radiation from the feed line causing interference to any other apparatus. There will be radiation from the antenna, not the screening sheath on the coaxial cable, and the radiation pattern will follow the shape of the antenna, not the feed line. A transmitter will be designed to protect itself from damage by automatically reducing power if a high SWR is encountered so designing the antenna for a low SWR is like taking a kink out of a garden hose – the transmitter will be able to effectively deliver its power and the antenna will both radiate and receive efficiently. This is particularly important if available transmitter power is limited.

An antenna will almost always involve a compromise of some sort. In this case, the compromises should be relatively easy to make and the antenna will be inexpensive, easy to construct and effective for the use for which it is intended. You could say that is a pretty good antenna.

The photos are by my son Billy Isdale.

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John Moyle 2007 Redcliffe Style

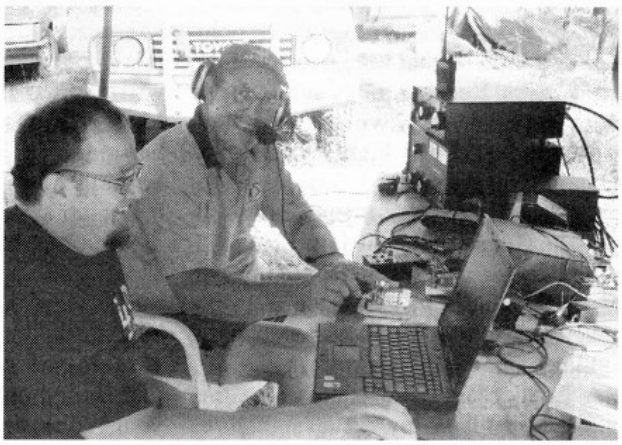
Steve Pearson VK4IT

The Redcliffe and Districts Radio Club participated in the 2007 John Moyle Field Day using the call sign VK4IZ. A portable multi-operator station was setup at the Murrumbong Scout Camp at Petrie, 25 km north of Brisbane. This event is one of the highlights of the club's calendar, and as per previous years, a great weekend was had by all who attended.

Two operating positions were set up at the campsite, one for 80, 40 and 10 metres, and the other for 20 and 15 metres. Yagis were used on 10, 15 and 20, with a vertical and dipoles for 40 and 80. Full legal power was used on all bands with both phone and CW operation. A few changes were introduced this year and proved to be very successful.

CW operation

In previous years, CW operation has been minimal and usually separate from phone operations. This year, a team of CW enthusiasts joined in the action and worked in tandem with the phone operators. When voice contacts were few and far between, the CW operators sprang into action. The team approach worked brilliantly, maximizing contacts on the bands with the added bonus of getting a number of voice operators trying their hand at CW. The club followed up by conducting a CW 'Tech Talk' presentation in April.



Shaun and Charlie work 20 metres CW.

Our Secret Weapon

One of the most time consuming tasks setting up in previous years has been the method used for getting wire antennas up into the tall trees. The bow and arrow and fishing rod approaches have been retired and the 'Big Shot' has been called into action. The 'Big Shot' is an oversized slingshot, and it provided a much easier and faster way to get wires over large trees. A number of setup hours were saved using this device and the dipoles were up in no time flat!

George, Peter and Shaun get the wires over the trees while Kerrod watches from a safe distance.

Saturday Dinner

In previous years it has sometimes been a difficult task attracting the numbers required for a full 24 hour effort. How do you attract people out to the site? Provide a fully catered lamb roast meal! Peter VK4TGV started this tradition at last years JOTA activity and it looks like it is here to stay. Attendees at this year's field day enjoyed roast lamb and vegetables cooked to perfection from a number of camp ovens. Now we just have to work out how to keep people on the radios while we serve dinner!

The club would like to thank all who attended on site and the hundreds of stations in VK and beyond who answered our calls. Also thanks to Coates Hire for supplying the generator and Murrumbong Scout Camp for the use of their campsite and portable toilet. A big thank you to the event organisers and all who assisted throughout the weekend. Another great John Moyle weekend Redcliffe Style!

More photos are available on the club website http://vk4rc.we.net.au

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Peter prepares for the Saturday night feast.

Time to get serious

Graham Selwood VK4SG.

Now it's time for some serious talking to the doom and gloom whingers in language that they'll understand.....*The bands are not dead....The bands are not dead....The bands are not dead.*

It's just your mindset that tells you that. I have worked more DX on HF in the last year than I have ever worked in any one year period of hamming since becoming licensed in 1975!

OK, you say, he must have an antenna farm to die for and a two kilowatt linear (idling at 400 W of course), as well as the latest and greatest all bells and whistles rig.... Naah not here! In the last year I've used my Yaesu FT-817 with a 40 W homebrew amplifier, a Kenwood TS-680 (circa 1988) and I am currently using a Kenwood TS-930 (circa 1984)...nothing special or 'State of the Art' there.

Antennas....Well I'm a VHF/UHF man at heart, so my 13 m pole has Yagis for 2 m, 70 cm and 23 cm up top. An inverted V for 40 m and a two element sloping wire Yagi for 20 m....pretty normal suburban backyard stuff there as well.

So what's the secret? Well, we've all got two ears and one mouth so you should at least use them in that proportion. In other words Listen, Listen and then Listen some more. That will get the first two parts of the secret solved. You will know where to operate and when to operate, and there's only one part left, how to operate.

After listening to yet one more statement on 40 m about 'dead bands'(you can hear the DX stations beneath the regulars), I went directly to 14100 to use one of the tools that every ham should be using, the IBP HF beacon network.

And this is what I heard at 4:00 pm local time on 20 April, 2007: see Figure 1.

What's that you say? A bunch of squiggly white lines on a blue background! Well that, my friends, shows a transmission, from left to right, from New York (weak), northern Canada, California, Hawaii, New Zealand (strongest), Perth, Japan, Russia (weak), Hong Kong, South Africa and a trace of Kenya.

The beacon network has 18 transmitters based all over the world, transmitting on 5 HF bands with variable power steps, repeating every three minutes, twenty four hours a day. A full description is in every Callbook, and on the web.

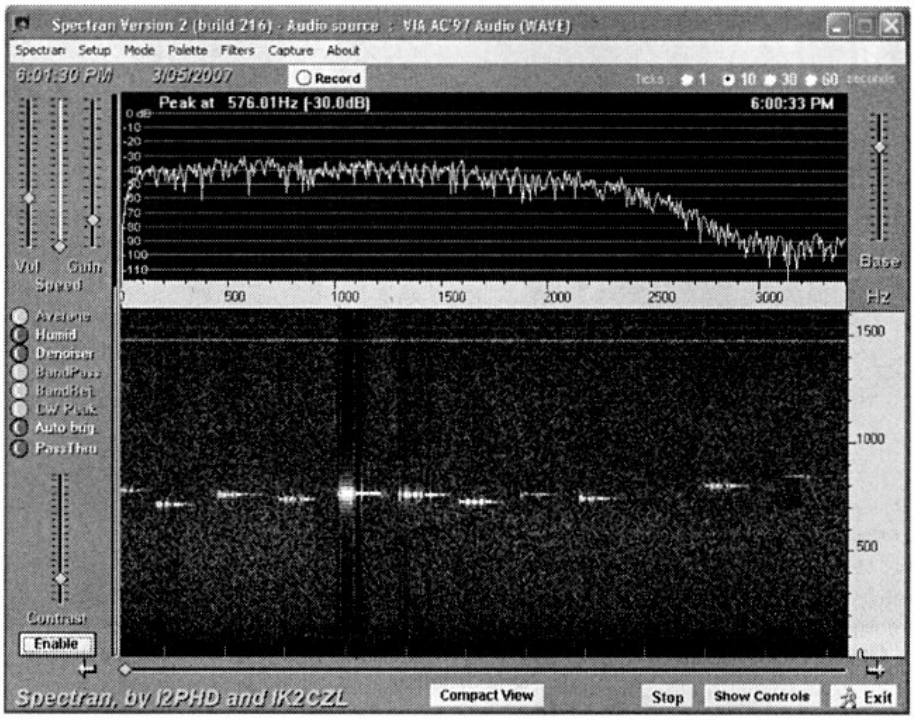

Figure 1: A Spectran glimpse of the international beacon network on 14.100 MHz.

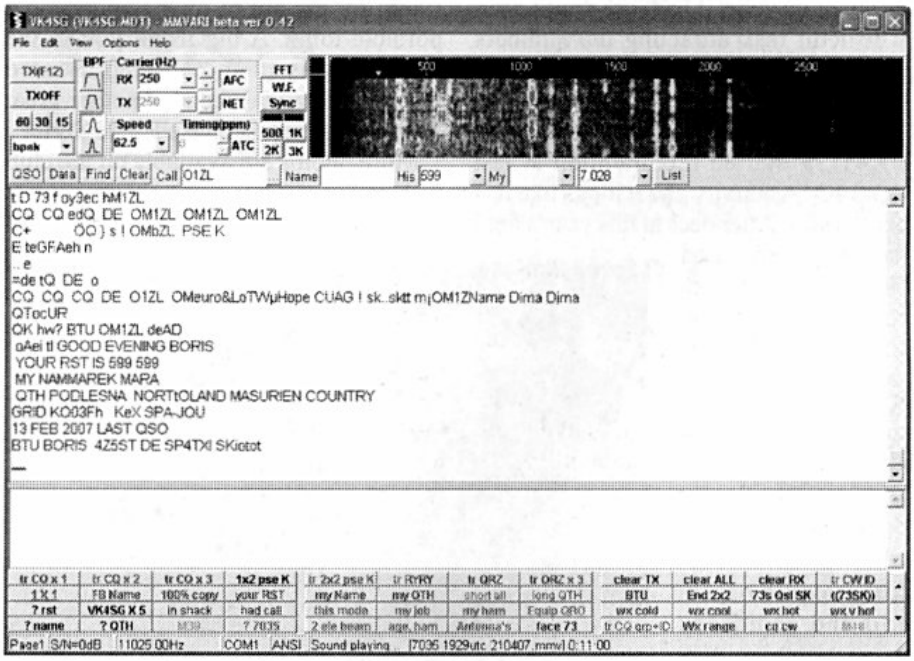

Figure 2: PSK31 signals (and one PSK63 signal) on 7.035 MHz

The program that I used to capture these CW transmissions is called Spectran. It can be obtained freely from many web sites. All that is required is a lead from your speaker/headphone connection to

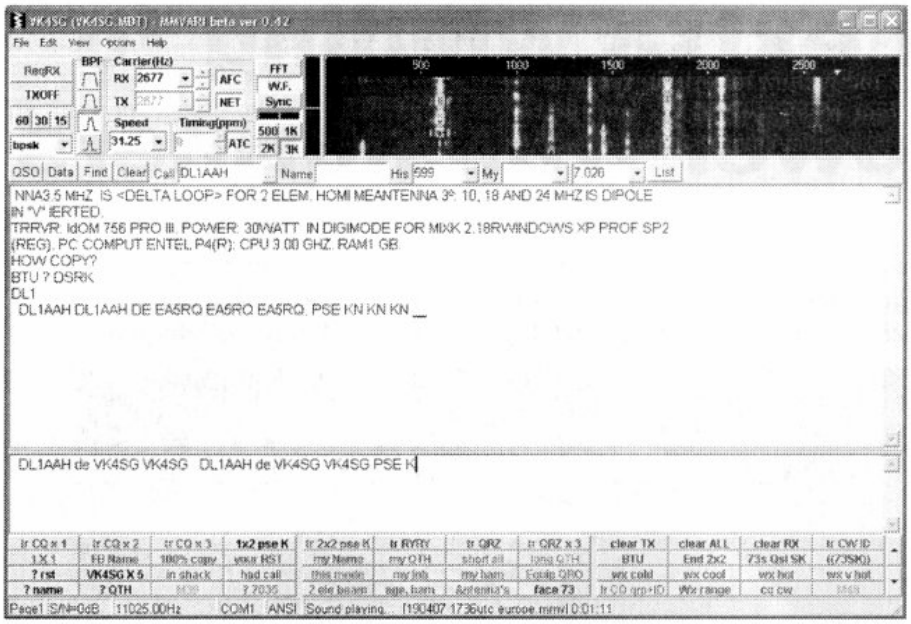

Figure 3: PSK31 signals on 14.070 MHz.

your soundcard input. If you read CW you don't need to use your computer, but if you don't, you can capture the lot, identify just one station (usually NZ is by far the strongest) and count from that signal to identify the rest.

So, 20 m was open to North America, Asia and Russia at the same time that the procrastinator on 40 m was telling all and sundry that the band was completely dead. My first bit of advice is to learn about the beacons and use them!

Now for something interesting. If you tune a band and it appears completely dead, try the following spot frequencies, 3580, 7035, 10140, 14070, 18100, 21070, 24920, 28070. There will probably be a funny warbling sound there, that my friend is PSK31, the mode that opens and closes bands.

Now people will tell you that Olivia or Domino or Throb is the better digital mode, and they all have their advantages, but the point about PSK31 is the thousands of hams all over the world using it.

Figure 2 shows twelve PSK31 and one PSK63 signal from European stations on 7035 at daybreak.

Figure 3 shows twelve or so stations on 14070 or around at 17:36 UTC.

To use PSK31 you need an interface between your rig and your sound card. These are available from many sources and generally cost around $40 for a kit. To just listen, all you need is a lead from your speaker/phone output jack to your soundcard. The software (many versions) is available free from many websites. Just type PSK31 in your search engine. I use MMVARI 0.42 myself, and DigiPan 2.0 and MixW 2.18 are other popular types.

So what am I suggesting? That you put the microphone away? Well, if you want to work all the DX you want, over 70 countries on both 40 m and 20 m in the last 5 months, with low power and simple antennas, you will have to. DX is always there on narrow band modes, PSK31 and CW. To prove a point, I got up early in the morning before the last club meeting, on March 25, and within an hour I had worked MW3 Wales 7035 PSK, DJ8 Germany 10140 PSK, OH3 Finland 14070 PSK and F4B France 3530 CW. The only one in the club not impressed with that was John VK4OQ, who does the same thing each day regularly with 100 W CW! I use 50 W when operating PSK.

Why am I telling you all this?

Because I can't keep up with the QSL cards! VK is quite rare DX to the Europeans at the moment and I sometimes find myself at the bottom of a pileup. I need you to do your share.

So extract your key or mouse and give me a helping hand.

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Adding an extra winding to toroidal power transformers

Drew Diamond VK3XU

Our usual electronics suppliers offer a good 'off the shelf' range of conventional and toroidal power transformers. But there are times when some other non-standard voltage and/or current value is required. One of the attractions of toroidal power transformers is the possibility of adding additional winding(s).

A recent example (Reference 1) was a need for an additional 5.2 Vac winding to power the heaters of two transmitting valves, that each draw 6.5 A (total 13 A).

In transformer work, it is usual to express the transformer's power rating in terms of the product of secondary load voltage and current (volt-amps, or VA), thus allowing for reactive loads which, despite their full or partial 'wattless' property, must never-the-less be supplied by the transformer's primary and core. Typical catalogued (Altronics and Jaycar) toroidals are rated 20, 30, 50, 80, 160, 300 and 500 VA. For the above example, total power of the load is 5.2 x 13 = 67.6 VA (rounded to 70 VA). The chosen transformer is rated 160 VA, which leaves 160 - 70 = 90 VA for the remaining (existing winding/s).

Figure 1 shows the transformer current carrying ability of common B & S and metric enamelled copper wire gauges, derived from constants given in Reference 2, p236. Current values indicated by the curve may be increased somewhat for intermittent service (such as a PSU for an amateur transmitting amplifier).

To find the number of turns required for a desired voltage, simply wind, say, ten turns of ordinary hook-up wire on to the core. Temporarily attach a mains plug and cord to the primary winding. Suitably cover all exposed mains connections. Apply mains voltage and carefully measure the winding voltage. You should typically measure 2 Vac, which equates to 0.2 volts per turn, or 5 turns per volt.

Here is an example. For a recent experimental transmitter project I required an unregulated DC supply of 52 Vdc at up to 1 A. The output from a bridge rectifier and reservoir capacitor will be about 1.3 times the winding rms voltage, so the winding must supply

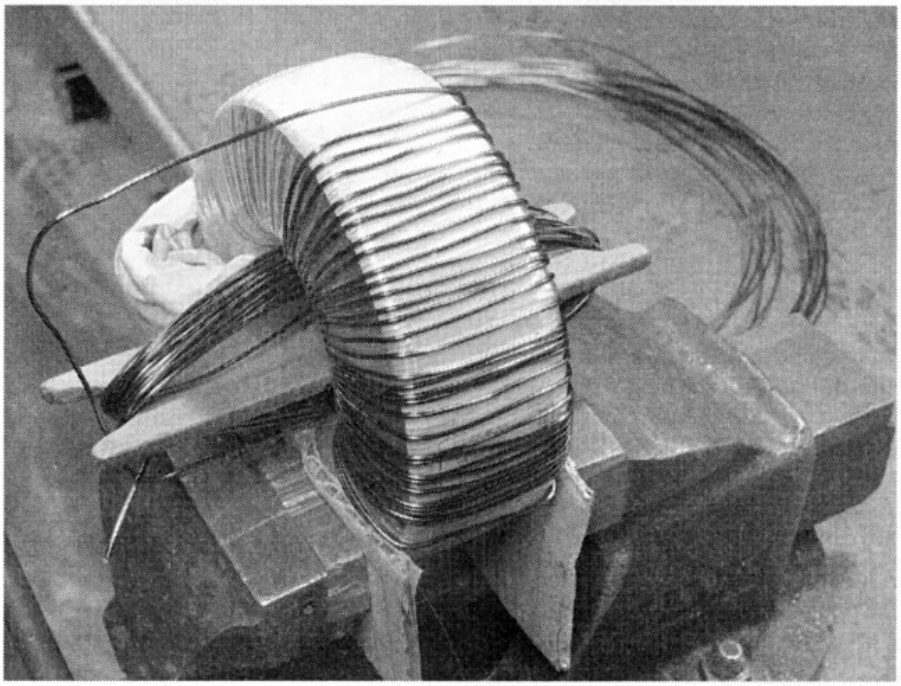

Photo 1

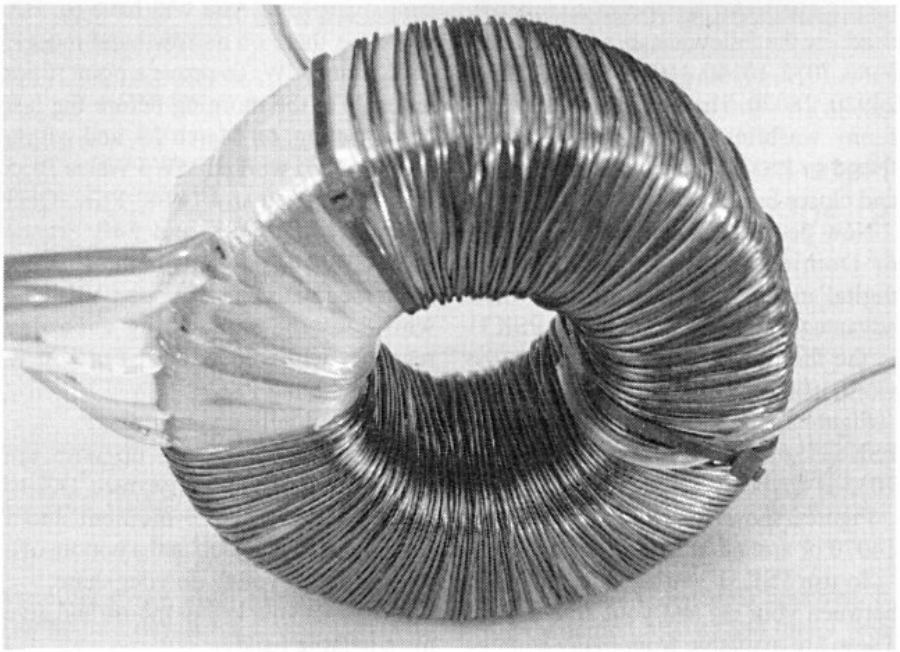

Photo 2

52/1.3 = 40 Vac. The number of turns required is therefore 5 x 40 = 200 turns, and the length of wire required will be 20 times the length of our 10-turn test winding, plus some spare for tails and error.

We must remember that, due to the effect of the capacitor, the AC secondary current may be about 80% more than the DC load current (Reference 3, p8.4 and Reference 4, para 6.12), so the chosen wire must be able to carry up to 1.8 A. Figure 1 shows that the nearest suitable wire size is # 20 B & S, or 0.8 mm.

The load on the additional secondary winding is 40 x 1.8 = 72 VA. For example, if a 160 VA toroidal is chosen, the load on the remaining (existing) winding(s) must not exceed 160 - 72 = 88 VA.

The transformer may be fixed in the jaws of your vice, protected with a layer of thick cardboard. Photo 1 illustrates a suggested method of applying the winding. The enamelled wire is wound upon a 'shuttle', made from an appropriately sized rectangle of plywood (or similar) with a v-notch at each end. Plan to finish with some wire to spare. Do not snip until the secondary voltage has been tested! The start and finish of the winding may each be secured with a plastic cable tie after first slipping spaghetti tube over the tails, as pictured in Photo 2.

For applications where a non-standard voltage is required, and provided that the total VA rating is not exceeded, a new winding of appropriate gauge may be connected in series with existing winding/s.

References and Further Reading

1. "A 400 W Linear Amplifier for 160 m"; *Amateur Radio*, Oct - Nov 2006.
2. *Radio(tron) Designer's Handbook*; F Langford-Smith, 4th edition, AWA.
3. *Voltage Regulator Handbook*; National Semiconductor Corp.
4. *The Art of Electronics*; Horowitz and Hill, 2nd edition, Cambridge University Press.

Photos: Andrew Diamond.

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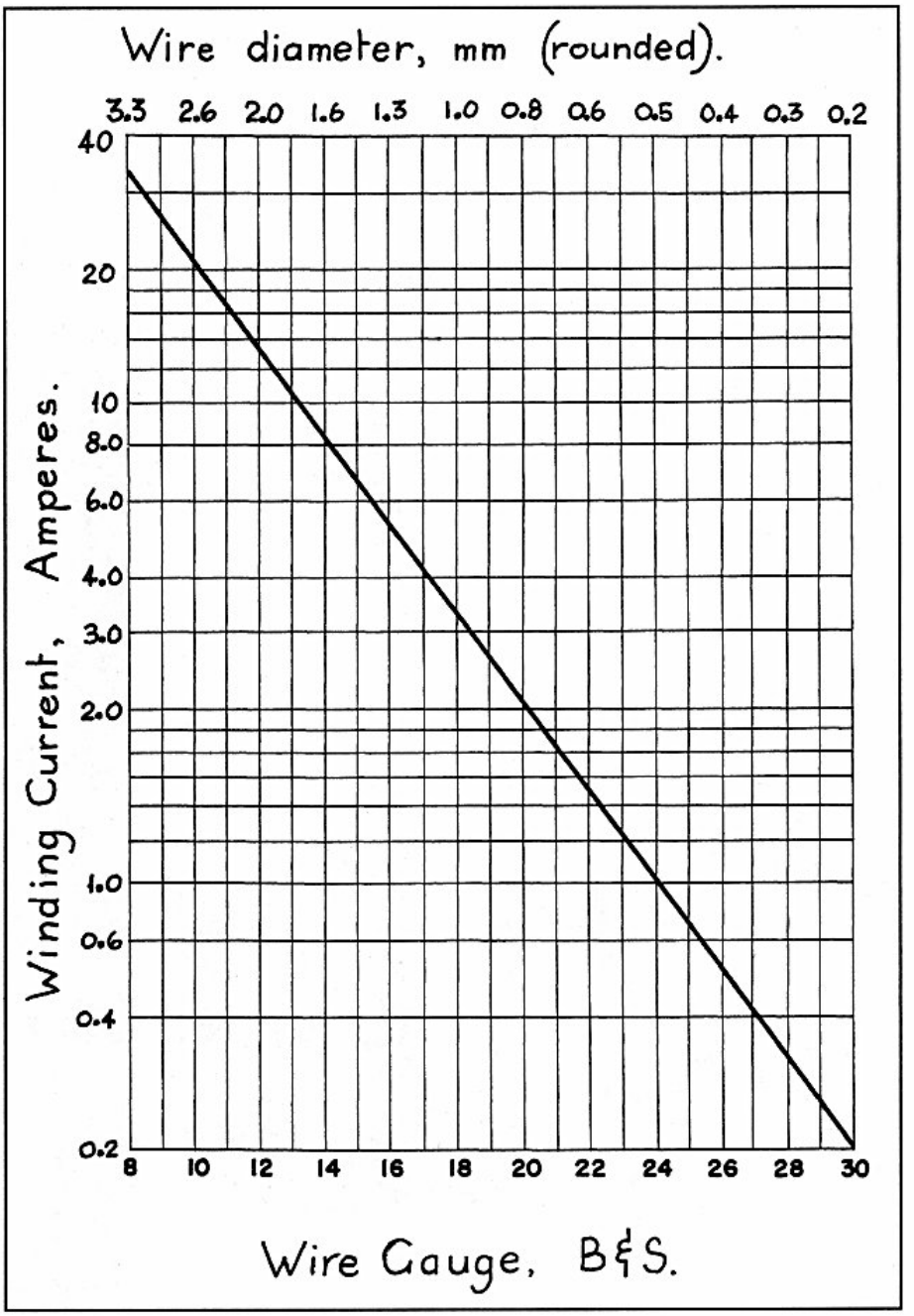


Figure 1

VK7WCN-WICEN Tasmania (South) at Cape Bruny for the 2007 International Lighthouse/Lightship Weekend

Roger Nichols VK7ARN.

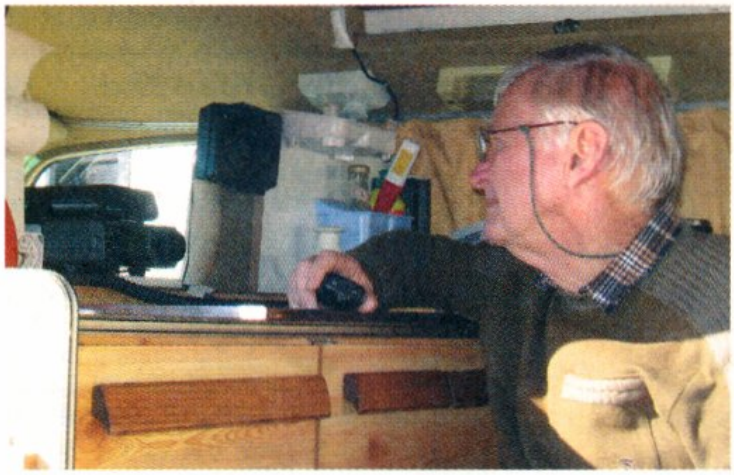
Cape Bruny light was activated for the third time in four years by WICEN in southern Tasmania, this time with the call sign VK7WCN. Cape Bruny is on the southern tip of Bruny Island to the south east of Tasmania. It was the southernmost Australian light activated for the weekend at 43.3 degrees South and the fifth southernmost in the world (there were four lights activated in Argentina lying further to the South).

The Cape Bruny lighthouse was convict-built in 1838 and replaced by a nearby automatic light in 1996. Today, it is administered by the Tasmanian Parks and Wildlife Service and maintained by a real Lighthouse Keeper, Andy VK7WS. The light sits atop the cape with the other buildings at a lower level on the neck between Lighthouse Bay and Quiet Bay.

Kettering ferry terminal was the group's Saturday morning meeting place for the trip overseas, about twenty minutes crossing the D'Entrecasteaux Channel to Bruny Island. The French explorer Admiral Bruni D'Entrecasteaux certainly left his name in the area

continued on page 24

L to R – Maureen, Peter VK7TPE, Chris VK7FCDW, Liz, Roger VK7ARN, Stu VK7NXX, Bev.



John VK7ZZ on station in his campervan.

F to B – John VK7ZZ, Roger VK7ARN, Stu VK7NXX, Peter VK7TPE.

More mysterious antenna faults!

Felix Scerri VK3FUQ.

I'm starting to wonder if that fellow Mr 'Murphy' has taken up residence at my QTH, or maybe I've just been 'chosen' for lots of strange antenna related faults, but anyway here comes another one! At this QTH I have three separate inverted V dipoles for 80 m, 40 m and 20 m, all fitting in the backyard with 'reasonable' separation between all three antennas. This matter of physical separation is relevant, as will be evident later.

As I have a number of separate receivers and tuners here in the shack, I often make use of any of these inverted V dipoles as random length 'receive' antennas for feeding into various receivers, a practice that works fine. The fault: Going back about a year or so I had noticed the increasing presence of 'crackles' when using two of these inverted V dipoles, and mainly evident when using my 40 m antenna, although the 20 m inverted V dipole was affected to a lesser but still annoying degree.

It was quite intermittent, but the problem seemed to be much worse on windy days, indicating something possibly mechanical was the basic cause. However that fault was very hard to find. Over some months I either thoroughly tested or replaced everything on that antenna and transmission line, and everything checked out OK on test, but the fault remained! After one weekend of more (futile) tests, but with a determination to ultimately find the real cause, the answer was found to be terminals on the centre feedpoint intermittently contacting the (metal) supporting mast, when the inverted V dipole was pulled up to full height via its pulley and support rope.

However, I had much earlier considered this possibility, and discounted it. Why? Simply because the terminals were covered in a substantial layer of silicon sealant and were well insulated (or so I thought). Even more strange was the fact that the 40 m antenna was absolutely faultless on transmit, with nary the slightest suggestion of SWR variation or shift, and no noise either on its intended band of operation! In the end, completely covering the exposed wire terminals at the centre feedpoint with heatshrink has completely overcome the problem and all noise as well, much to my relief!

As was also mentioned previously, my separate 20 m inverted V dipole was also affected by the same 'crackling', and it is obvious now that the noise being 'generated' on the 40 m inverted V dipole was also being 'induced' or coupled on to the 20 m inverted V dipole as well. This in itself made it quite difficult to diagnose which antenna was actually faulty; although it was always felt that the 40 m inverted V dipole was affected a little more by the intermittent 'crackling', but not by much! This experience shows that 'unwanted coupling' can indeed take place between separate antennas, even when it is thought that the physical spacing and separation is considered adequate for minimal 'unwanted coupling', as I thought it was!

After the fault was finally rectified, it was recalled that when the 40 m inverted V dipole was first installed many years ago, the feedpoint connections were indeed covered with small lengths of rubber tubing, but with the passage of time, they had fallen off. In retrospect, replacing them at that time would have saved a lot of tedious fault finding now! Still, it was a most interesting fault and I'll definitely know what to look for next time!

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Cape Bruny

continued from page 22

after visiting in 1792. We must have looked like explorers ourselves. Our vehicles still carried the mud from a horse endurance ride safety checkpoint job the previous weekend. Heavy rains and flooding in several parts of Tasmania over the days leading up to it had created quite a mud bath. The familiar trip down North and South Bruny Island to Cape Bruny ended with a welcome from Andy and his charming XYL Beth.

John VK7ZZ quickly established himself in his campervan at the base of the lighthouse with an IC-706MkIIG, LDG Z100 tuner and both a wire to the lighthouse halyard and FAMPARC multi-band whip on his vehicle.

Stu VK7NXX with XYL Bev, Peter VK7TPE with Maureen, and Roger VK7ARN took the soft option and moved into the Assistant Keeper's cottage with all the comforts of home. A 12 metre mast erected on the site of the original station mast had an off-centre fed dipole strung between it and another mast above the cottage. The operating position in the cosy cottage kitchen had another Icom IC-706MkIIG with AT-108 tuner.

For good measure, Peter set up a third IC-706 with an AH-3 tuner in his vehicle in the visitors' car park with a long wire to Andy's anemometer mast.

Not the best of propagation with lighthouse contacts being confined to Australia and New Zealand. Of the 38 Australian and two New Zealand lights registered, we had contacts with 22 VK and one ZL, some on multiple bands.

Over the weekend we were visited by Gary VK7GJD and Michelle on Saturday and Chris VK7FCDW with Liz on Sunday. The weather was unusually fine through the weekend, Sunday being exceptional with wall to wall blue sky providing distant vista to snow capped peaks in the west, the rocky islets of Pedra Blanca and Eddystone Rock on the horizon to the south and Tasman Head and the Friars to the East. Our trip home was uneventful, other than a flock of sheep on the road, a stop at the Hothouse Café for coffee and arriving just in time to see the ferry, full to capacity and leaving early and us with an hour to wait for the next one!

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Hamming it up in Centennial Park

Brad Crowe VK2CEC.

After a walk in Sydney's Centennial Park one morning last August, Eddie VK2BEH suggested to several members of the Waverley Amateur Radio Society that:

It might be a good idea for those interested in health and fitness to meet at a kiosk in the park for breakfast on Sunday mornings. Centennial Park is a very pleasant venue with plenty of trees and bird life as a distraction from exercise instead of breathing traffic fumes. It also leaves one with a better sense of well-being after exercise.

That suggestion motivated two members to initially take up the invitation but to ride bikes instead of walking. It is now a regular Sunday amateur radio event for many more members (complete with their handhelds), and combines camaraderie, health and fun with amateur radio.

"I had been walking in Centennial Park for many years but never thought of suggesting it to others until recently", Eddie said. "Wish I had suggested it earlier since the Sunday morning exercise is enthusiastically attended by many members and has become a pleasurable social event for eyeball communication as well", he added.

Brad VK2CEC says, "For some, the walk to the park is their exercise while for others 'bicycle mobile' is their preference". Alan VK2TUI said, "Some other members and I already had bikes much in need of dusting off and of course being hams there is plenty of creativity employed in the mounting of HTs and antennas".

Centennial Park is located in the eastern suburbs of Sydney and is less than 5 kilometres from the CBD. It occupies more than 360 hectares. Within the park is a four kilometre bitumen bicycle track, a bicycle hire outlet and a good facility for breakfast and coffee. The group welcomes anyone interested in joining them in the park.

More information can be obtained via the Paddington 2 m repeater.

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Jim VK2JA, Brad VK2CEC and Alan VK2TUI with handlebar mounted handheld transceivers and headsets clearly visible

Eric VK2VE, Grant VK2TU, Doug VK2DCR, Eddie VK2BEH, Alan VK2TUI, Jim VK2JA and Brad VK2CEC.
Other regulars, not in the picture are Megan VK2FGGL, Alan VK2FALN, Lynn VK2FLTJ, Mathias VK2FMBH and Raffy VK2RF.

Quansheng TG-25AT VHF & TG-45AT UHF HH transceiver review

Jason Reilly VK7ZJA

Unless you've been a hermit for the last six months, it is a fair guess that you would probably seen advertisments for various VHF & UHF handhelds of Chinese origin, available at ridiculously attractive prices. Maybe you have wondered if they are just too cheap to be of any use? Wonder no more, here we will see just what one brand of these handhelds can do.

Our subjects are the Quansheng TG-25AT and TG-45AT. Quansheng Electronics have their home in China, a country where there is a huge emerging demand for radio communications. Couple this with a manufacturing industry that is slowly shaking off the preconception that everything from China is 'cheap and nasty' and it would only seem natural that some indigenous designs for radios would emerge from that country. But are these Quansheng TG-25AT and TG-45AT handhelds truly indigenous in design? Perhaps not, there are rumours of a strong 'under the hood' resemblance to certain budget model Kenwood handhelds. But what ever the case may be, Quansheng have produced an excellent value radio. It would also appear that the TG-25AT and TG-45AT radios are the same under the skin as the Quansheng TG-K2AT and TG-K4AT radios as well, so this review may be equally applicable to them.

The first thing that strikes me when holding the Quansheng in my hands is how solid and rugged it feels, certainly far in excess of what you would expect at the price being asked. Measuring 100 mm H x 56 mm W x 38 mm D, not including the top knob or belt clip, the radio is a good, compact size. The top knob does not feel sloppy at all, and the antenna connector is a SMA male. Rubber grommets are evident covering the speaker and microphone connectors, the DC power inlet connector, and there are similar rubber gaskets sealing the electronics of the radio as well. The battery, with an integrated belt clip, forms the back half of the radio and is a design borrowed from Motorola, so a fellow ham tells me. A little bit of Kenwood, a little bit of Motorola – this radio certainly has some good pedigree in design at least.

So what are the features of the Quansheng? You can operate the radio in a VFO or memory mode, and if you do program memories, you will find that there is room for 99 of them. You can scan the memories too – but you cannot select which memories to scan, it is an all-or-nothing proposition. In VFO mode, you can also search for active frequencies. There is a CTCSS encoder & decoder available. Of course, a repeater offset facility is there, and you can program in a custom offset for those repeaters that do not use a standard offset. Frequency steps are changeable between 5, 10, 12.5 and 25 kHz. Power output is selectable between 5 and 1 watt. There is a handy key lock function. You can force open the fixed mute. Lastly, there is a voice annunciation feature in a female English voice whom many of the local hams affectionately refer to as 'Minnie' – and there is the facility to turn off the voice prompts, which is a welcome relief as Minnie only has one volume setting – LOUD! Minnie will also get most insistent when the battery nears exhaustion, saying "change the battery please" – until the battery does actually go completely flat!

In use, the Quansheng feels comfortable to hold, and the PTT action is positive. This is in contrast to the keypad which feels 'mushy' with little tactile feedback. Unfortunately, the keypad is the only way to change channels, alter the VFO, and just about every other feature, but we can forgive this minor problem given the price. Once you start to receive signals, you will notice that the audio qualities are superb! This is one of the nicest sounding handheld radios I have had the pleasure of testing. The mute action is quick and clean, though lacks any form of hysteresis. The Quanshengs I tested were locked to the amateur bands of 144-148 MHz and 420-450 MHz, though it is possible to get the same unit from overseas sources that cover more generous portions of the spectrum, should you be interested in out of band reception.

The receiver itself is a dual conversion design, using a 21.4 MHz IF, and would appear to have quite good adjacent channel rejection characteristics. The

receiver is also astonishingly sensitive, my tests show about 0.18 uV for 20 dB quieting in the VHF version, 0.2 uV for 20 dB quieting for the UHF; you could reduce these figures by approximately 70% for a rough guide to 12 dB SINAD figures. However, such attributes as image rejection, cross-modulation handling and dynamic range would definitely be considered below average. Taking the receiver to a busy hilltop transmitter site resulted in a lot of problems being evident with the receiver – maybe not quite as many as my comparison receiver on the day, a Yaesu VX2r. However, taking the Quanshengs, both VHF & UHF, out for a drive in the suburbs and through the city revealed a very well behaved receiver in general. I would say that the only problems the average ham will have with them is when either in the CBD of very large cities, or when close by to another transmitter – or if you are unfortunate enough to have a transmitter falling on an image frequency.

On transmit, the Quansheng has pleasant TX audio, and delivers 5 watts on high power, 1 watt on low. The CTCSS encoder and decoder both worked fine without any false decodes or dropping out. DTMF would have been nice to have, especially for IRLP contacts etc, but unfortunately we will have to make do without on the Quansheng.

Taking a peek inside at the circuitry, I would not have known I was looking at a cheap, mass produced Chinese product. The component placement, wave soldering of all the SMD components and general finish is excellent, very close to what I'd expect to see from any one of the better known manufacturers.

Included as standard with the Quansheng radios are a drop-in slow charger, a NiMH 1100 mAh battery with spring loaded belt clip attached, and a flexible antenna about 16 cm in length. Did I mention the instruction manual? No? Perhaps this is best left unmentioned – it is terrible! VK7MX Bill has produced an infinitely more useful pdf guide to the Quansheng radios called "Quansheng Quirks" – I thoroughly commend it to you should you buy a Quansheng. Other accessories you can get include a car charger adaptor, spare batteries, speaker-microphones, and SMA female to BNC female antenna adaptors – also at very pleasing prices.

Bill and I have seen quite a few Quanshengs go into the hands of local amateurs, and generally speaking most are very happy with them; they are certainly getting a good reputation around these parts. The factory in China has also been forthcoming with supplying spare parts to effect repairs for those units that had suffered damage outside the scope of the 6 month warranty too, which is very reassuring. The Quansheng factory has also taken on board some suggestions from local hams on what they might do to improve their handhelds. The factory has just advised that it has implemented an Australian suggestion to abandon the simple drop-in charger in favour of an intelligent design that senses the state of charge and reacts accordingly. DTMF is another popular suggestion, and while no promises have been made, I do think that these requests and general feedback might well be considered.

I keep talking about 'the price' but have so far restrained myself mentioning 'the actual price'. For $100 (yes, Australian Dollars), you can have this radio and still get some change. At that price, this radio represents absolutely phenomenal value. It really is an excellent quality unit, even at twice the price. I think it would be ideal for Foundation licensees or those wanting a cheap handheld without all the extra fancy features.

Geoff VK6NX is the national importer and, for most of you, is the guy to contact if you cannot wait to get your hands on a Quansheng. I notice that he has advertised in Amateur Radio in the past. If you are in VK7 then Bill VK7MX is your contact for both supply and support. The Quanshengs come highly recommended by me; I am sure you will be tickled by just how well these radios work for the money!

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Quansheng TG-25AT and TG-45AT Specifications

1. Frequency VHF 136-174 MHz, UHF 400-470 MHz
2. Same frequency/different frequency.
3. Initialization.
4. Channel step 5 k, 10 k, 12.5 k, 25 k.
5. CTCSS function.
6. Voice prompt.
7. Input frequency directly by keypad.
8. Display channel and frequency mode.
9. Monitor and scan function.
10. Switch power between 'HI' and 'LOW'.
11. Auto battery saving function, extend the usable time of battery.
12. Low power alarm; when the power is low, it sends the sound signal to alarm you to change the battery.
13. Communication range: Normally it is 5 km, but sometimes it is affected by environment.
14. Earphone/microphone/auto-charger jack, convenient for answering and charging.

Technical specifications

Frequency range: VHF: 136-174 MHz, UHF: 400-470 MHz
Channel: 99
Channel spacing: 5 kHz, 10 kHz, 12.5 kHz, 25 kHz
Operating voltage: 7.2 V DC
Frequency stability: 5 ppm
Antenna Impedance: 50 ohm
Size: Not including antenna 113 mm * 54 mm * 36 mm

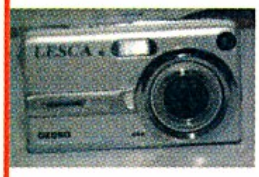
Transmitter

Output power (High/low): 5 W or 1 W
Current: < 1.6 A/1 A
Modulation sensitivity: 12 +/- 3 mV
Modulation distortion: <5%
Maximum frequency deviation: <5 kHz
Sub-audio distortion: 0.75 kHz +/– 50 Hz
Spurious response radiation:<7 uV
Modulation mode: 16 F3E
Remnant modulation: <-35 dB

Receiver

Sensitivity: < 0.25 uV
Silent sensitivity: < 0.25 uV
Audio output power: 500 mW
Audio distortion: <10%
Modulation bandwidth: >+/- 5 kHz
Spurious response rejection: >55 dB
Selectivity: >65 dB
Intermodulation: >60 dB
Emphasis: >85 dB

Andrews Communications Systems



DX-850...$99
2.4" • 8MP • ZOOM

DX-300...$229
3" • 7.2MP • MOVIE

T-60...$249
3" • 10MP • ZOOM

T-800...$129
3" • 3MP • ZOOM

MV-9000...
$249
2.5" • 6MP • MOVIE

BEST VALUE LARGE SCREEN DIGITAL CAMERAS ?

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8X42..$129

MB ULTRA
10 X 50..$349

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10 X 50WA..$69

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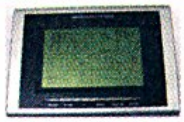
BEST PRICED HIGH QUALITY BINOCULARS IN AUSTRALIA ?

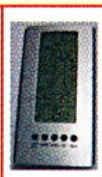
RS-8706E
$39

RS-8707P..$79



RS-8707P2..$99

WIRELESS WEATHER STATIONS WITH REMOTE



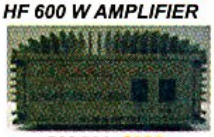
MINI SIZED
WEATHER STATION
$5
RS 0024B
TIME, DATE, DAY, TEMP, ALARM

MEDIUM SIZED
WEATHER STATION
$15
RS 8419B
TIME DATE DAY
TEMP HUMIDITY
ETC

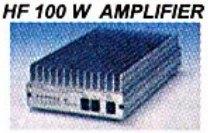
THP HL-700B..$1799
HF 600 W AMPLIFIER

THP HL-100B DX..$649
HF 100 W AMPLIFIER

THP HL-500V..$4499
2 m 500W AMPLIFIER



DX-500..$999
HF 500 W OUTPUT



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- LDG FACTORY DIRECT IMPORTER — 3 YEAR WARRANTY

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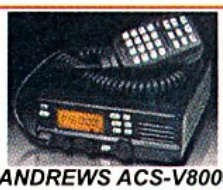

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DJ-X7 Wideband Handheld	$299
DJ-X 2000E Deluxe H/held Scanner	$699
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VX-7R Deluxe Tri band H/H & Spkr Mic	$569
FT-60R Dual band Handheld	$269
VX-170 2m 5W handheld	$199
FT-817ND HF–70 cm Portable	$899
VX-2R Dualband H/H	$239
FT-897D HF–70 cm	$1149
FT-2800M 2 m Mobile	$249
FT-7800R Dual band Mobile	$399
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IC-V85 2 m H/held	$249
IC-756Pro III HF– 6 m	$4299
IC-T90A Triband h/held &spkr-mic	$399
IC- 208H Dual band Mobile	$399
NEW IC- 2820H Dual band Mobile	$799
IC- 2200H 2 m 50 W Mobile	$299
IC-V8000 2 m Mobile	$349
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IC-T2H 2 m H/H & spkr-mic	$199
IC-R5 H/H Scanner w/batts & chgr	$299
IC-R20 Deluxe Handheld Scanner	$699
IC-R1500, IC-R2500, IC-PCR1500, IC-PCR 2500	
IC-AH4 Automatic Tuner	$499
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TH-F7E Dual band Handheld	$399
NEW TM-V71A 50W / 50W, echolink	$649
TM-D700A Dual band Mobile	$799
TM-G707A Dual band Mobile	$399
TS-480HX HF+ 200 W 6 m+100 W	$1799
TS-480SAT HF–6 m 100 W+ATU	$1699
TS-570SG HF–6 m 100 W+ATU	$1799
TS-2000 HF–70 cm + ATU	$ 2599
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News from...

VK2

Tim Mills VK2ZTM
c/o vk2wi@ozemail.com.au

Clubs

Last month the ***Central Coast ARC*** celebrated 50 years since their inaugural meeting in October 1957. From their recent newsletter 'Smoke Signals' – some of their history. They were known at intervals as the Central Coast Amateur Radio Club, the Gosford Radio Club and the Central Coast Branch of the Wireless Institute of Australia. In March 1972 they reverted back to the 'Central Coast Amateur Radio Club' and in April 1988 added 'Incorporated'. 37 persons attended the inaugural meeting on Friday 18th October 1957 at the Gosford School of Arts Hall in Mann Street, Gosford.

The CCARC are well into their planning for the 2008 Field Day which is scheduled to be held at the Wyong Racecourse on Sunday the 17th February. Their field day is as old as the club. Prior to the present venue at the Wyong racecourse, they had been at the Gosford Showground and Gosford Sailing Club. Before the club was formed, the NSW Division had held field days at Wyong Golf Club which is near the racecourse. A pre field day dinner is being considered for the previous evening, Saturday 16th. This month they have their Christmas lunch function on Saturday 17th November at the 'DIGGERS' at The Entrance – contact Ray VK2HAY for details and bookings.

Besides the Central Coast having been a Branch of the NSW Division, the Newcastle region had the Hunter Branch. There was also the Blue Mountains Branch and Wollongong had the Illawarra Branch. Over time these branches became clubs in their own right.

It is now only a couple of months to the North Coast Expo on Sunday 20th January provided at Coffs Harbour by the ***Mid North Coast ARC***.

Last month, the ***St. George ARS*** held their monthly meeting at the Telstra Museum in Bankstown. It is a great display of the telegraphic and telephonic past of this country. The museum was previously set up at Ashfield. They open on Tuesday and Wednesday and admission is by donation. Telephone 02 9790 7624. Email tmuseum@bigpond.net.au Similar museums are established at Hawthorn in Melbourne and Albion in Brisbane and work in cooperation with each other.

While taking about museums do not forget the ***Kurrajong Radio Museum*** operated by Ian and Patricia O'Toole. There is an extensive array of military and allied radios. Email vk2zio@yahoo.com.au or Google search 'Kurrajong Radio Museum'. Ian is always on the lookout for equipment for display. Before dumping that old piece of military or similar equipment check with Ian, he may have a home for it. Telephone 02 4573 0601.

The ***ARNSW Home Brew Group*** has been sponsoring the construction of an 80 metre AM transmitter. At the September meeting at Dural three members presented their efforts. As most readers will know, the monthly evening gathering of the group is conducted in the party room of McDonalds at North Parramatta. This fact has been picked up overseas and the details are doing the rounds of the email circuit. By the way, it is on the first Tuesday at 7 pm. There is a net on the third Tuesday evening on Sydney repeater 7000.

HADARC has Saturday 8th December set aside for a lunchtime picnic and barbeque at CherryBrook Park. They currently have underway a Standard and Advanced Licence course running until the end of the year. Contact Tony VK2BTL 02 9487 3383.

Manly Warringah RS – they meet Wednesday evenings at Terry Hills. Jeff VK4XJJ visit the club last month when he spoke about his recent walk from Spencer's Gulf to the Gulf of Carpentaria. Check out the Manly Warringah web site www.mwrs.org.au

Mid South Coast ARC recently fitted new beams to their VK2RMU 6700 Little Forest repeater. Reports requested to repeater@mscarc.org

Summerland ARC have a Foundation course 10/11 November. Check them out at vk2src@sarc.org.au

WICEN [NSW] Inc recently held their AGM. They were seeking members to fill the rolls of Secretary and Treasurer. Can you help? Check out their web site www.nsw.wicen.org.au

Amateur radio was represented at the recent open weekend of the Parkes Radio Telescope by the ***Orana Region*** and ***Orange and District ARCs***. They had a busy time handing out material about themselves and the WIA.

ARNSW

With the administration now at the VK2WI Dural site, the postal address has become P.O. Box 6044, Dural Delivery Centre, NSW 2158. The existing Harris Park box will be retained until next April for the change over period. Those ARNSW members who have the post box address of 9410 will be advised of a new box address for this service. Those who would like to use this facility which provides an alternate callbook address to the home QTH details should contact the Secretary. The ARNSW Secretary, Brian VK2TOX, is usually in attendance at Dural on Tuesday between 11 am and 1 pm. The office phone is 02 9651 1490, the old 9689 2417 will be phased out but for the moment both are redirected to the Secretary or the message bank.

The FAX number is 02 9651 1661. The old 9633 1525 fax no longer exists.

A reminder about the last Trash and Treasure event for the year: This will be on Sunday the 25th of November – at Dural – starting about 10.30 am and will also be a mini field day, incorporating a club conference. It will have the Home Brew Experimenters gathering in the afternoon. For the latest - listen to VK2WI News.

Getting to the Dural site – 63 Quarry Road – by public transport on a Sunday can be achieved by taking a train to Pennant Hills station. The City train arrives at 10.06 am and the one from Hornsby at 9.48 am. Outside the station, catch the 637 bus which goes to Dural and Glenorie via Castle Hill. Ask for the Quarry Road stop which is just after the Old Northern and New Line Roads roundabout. A telephone call to the engineer's phone 9651 1489 will have

someone come and pick you up. Best to bring your mobile phone as there are few public phones left in the area. Ideally, pre arrange the pickup.

Work continues with the fencing at Dural. The front is completed and most of the western side has been done as these notes were compiled. That leaves the rear and east side to go. New entry gates are ready for installation.

VK2WI

Morning and evening transmissions of VK2WI News continue until the 23rd December, then across New Year, there will be the usual morning only session.

The 60 metre 5425 kHz USB morning linking signal continues to fill the gap between 80 and 40. As mentioned last month, 5425 has identification requirements, which made it difficult to use while playing the VK1WIA portion. This has been overcome to an extent by tasking the Engineer to look for suitable points to insert the ID. To date the VK1WIA content has to be down loaded off site and brought along on tape. A recently installed all 'copper' telephone circuit should provide ADSL level to be available on site to enable the function to be performed in-house.

There have at times been some difficulties sending news items to VK2WI by the vk2wi@ozemail.com.au email. Deadline is noon on Friday. An alternate address is available and could be used when in doubt. It is arnews@tpg.com.au A transcript of the weekly news is posted to the web site www.arnsw.org.au early in the week.

73 – Tim VK2ZTM.

VK3

Amateur Radio Victoria News

Website: www.amateurradio.com.au Email: arv@amateurradio.com.au

Jim Linton VK3PC

D-STAR Digital

The interest in D-STAR, a digital voice and data mode for amateur radio, has been phenomenal and it will decidedly ramp up with the arrival of two dedicated repeaters.

A number of members have declared that they will give it a try only when the repeaters come on line and there are signs of a few 'clearing the shack' of analogue only VHF/UHF gear in preparation for a new purchase.

Icom (Australia) Managing Director, Takashi Aoki JQ1NFY/VK3FNFY and Amateur Radio Victoria President Jim Linton VK3PC with a D-STAR enabled hand-held transceiver.

As is the nature of amateur radio, there are others who are satisfied with analogue telephony, CW or some of the other digital modes, but will not just yet see any need to also use D-STAR.

The waffle award is back

The Welcome Aussie Foundation Licensees or 'Waffle' operating award is available again after its initial debut that ended early this year.

The rules have not been changed: For VK stations, make 50 contacts with Australian Foundation Stations, while DX stations need at least 10. Any contact since November 2005 is valid.

Contact with the same Foundation callsign is permitted, provided this does not occur on the same day, unless on more than one frequency band. Repeater and IRLP contacts fall within the spirit of this award, as they require use of radio at each end of a contact.

Claims should include a log extract for the required contacts, plus payment of $5, and be sent to Waffle Award, Amateur Radio Victoria, 40g Victory Boulevard, Ashburton 3147, Victoria, Australia.

Amateur Radio Victoria, which is making this operating award available, will keep it active until the F-Troop Photo Call at the Centre Victoria RadioFest on 10 February 2008.

continued next page

News from...

VK3 *continued*

Upgrade class success

The five who were enrolled in the Standard Licence Bridging Course held in September worked diligently under the guidance of instructor Kevin Luxford VK3DAP/ZL2DAP.

The proven course runs four weeks on a Wednesday night at the Amateur Radio Victoria Office and all-day on a Saturday. The outcome relies not only on Kevin's instruction and mentoring, but those doing the course focused on their personal goal and what is required to reach it.

This time all in the course had previously attended our Foundation Licence weekend sessions, but the Bridging Courses are open to all provided they have already qualified for the entry level licence.

RadioFest planning

The organising committee for this major event met at Laanecoorie on Sunday 14 October, during a break in the inter-club BBQ attended by members of the Ballarat Amateur Radio Group, Central Goldfields ARC, Midland ARC and Amateur Radio Victoria.

The committee discussed the RadioFest's program, promotion, catering arrangements, logistics and the volunteer roster.

For bookings of second-hand sales tables and car-boot spaces, contact Nick Angelo VK3UCK via email vk3uck@hotmail.com.au phone 0448 653 201 or check out the website www.radiofest.amateurradio.com.au for more details, application form and conditions.

Full details of the second Centre Victoria RadioFest, to be held at the Kyneton Racecourse on 10 February, will appear in the December edition of Amateur Radio magazine – look for it.

Callbook & logbooks

Copies of the 2008 Callbook are available via mail order for $29. Orders and payment please to Amateur Radio Victoria, 40g Victory Boulevard, Ashburton 3147. Credit card payments accepted via fax 9885 9298. Or they can be personally picked up on Tuesdays, 10 am to 2.30 pm, for $22. Log books are also available – $10, or mail order at $13.

Volunteers, happiness & health

Being happy plays an important role in health and for many people it is found through volunteering.

An article in the Australian Health Promotion Association Newsletter lists the reasons why people volunteer, which include:

- Wanting to meet and help people
- Keeping active
- Increasing knowledge and skills
- For enjoyment or fun

Volunteering is often seen in terms of the benefits volunteers bring to an organisation or activity, but more recently there's increased awareness of the benefits to the volunteers themselves.

Sara Fernandez and Ray James, Mentally Healthy WA, Curtin University, report in the article that studies have found the majority who volunteer at least five times a year feel less stressed and have higher levels of well-being.

The bottom line is if you want to be happy, try volunteering. Amateur Radio Victoria has vacancies.

Geelong Radio and Electronics Society (GRES)

Rod Green VK3AYQ

The last three months have been most productive for our members. The main focus for this period has been on construction and education. Under the guidance of Graham VK3XGD, many members built a portable 4-element Yagi for the 2 metre band. This was a very popular project and some 20 antennas were constructed over two nights. These new antennas will be very useful for WICEN activities in the future.

We were contacted by a local primary school to see if we could assist with the teaching of electronics to grade six pupils. John VK3JCC coordinated these activities, assisted by club members, and two groups of students came to our rooms, each group having three practical sessions. During the three one-hour classes the students constructed a lie detector, a led flashing unit, and an FM wireless microphone. Pupils were heard to remark that "electronics was fun", and the school principal reported that after the first session the students returned to school "walking on air". It is hoped that in the future we can start an electronics club at the school. From this small beginning it is possible that we have sown the seed that will result in the flowering of many young engineers.

We also had two groups of scouts along for instruction in practical construction. Again under the guidance of John VK3JCC and club members, the scouts were helped to construct a wireless microphone. As these scouts had had previous instruction the unit they constructed was more complex than that built by the primary school children. It was originally thought that it would take them two evenings to complete the project. However they proved us wrong and were able to construct the three-transistor unit in just one session.

For our regular meetings we were fortunate to have had three guest speakers. The first was Dallas VK3DJ who brought along his home constructed portable HF antennas. Much interest was shown in the antennas particularly in the methods of construction. Next we had Peter VK3CFA who talked about the SSTV programs available. Many of our members are active on SSTV but the main focus of the evening was on the newer digital programs available. It looks as though we will see the transition from analogue to digital in the near future. Our last guest was Phil Hapgood who spoke about renewable energy. Phil is a regular speaker who visits us approximately every two years. He operates his own business installing solar and wind power systems. This time he told us about the advances made in wind powered generators. To complement his talk he had a wind turbine plus a slide show of actual installations. One

The Point Perpendicular
Lighthouse Weekend 2007

Ross Masterson VK2VVV.
Photos by Rob McKnight VK2MT.

Twelve months in the planning, two of the oldest and most respected amateur radio clubs in New South Wales, an historic lighthouse just waiting to be relit, and a group of enthusiastic amateur radio operators is all that was needed to produce a most remarkable International Lighthouse and Lightship weekend for 2007.

Point Perpendicular Lighthouse is located on the Beecroft Peninsula at Jervis Bay. Maritime activities along the coast line and within Jervis Bay have occurred since the time of Captain Cook's landing at Botany Bay. Major shipping lanes exist along the coast and the Royal Australian Navy College HMAS Creswell resides in the Bay.

The ILLW station was manned by members of the Illawarra Amateur Radio Society VK2AMW and the Blue Mountains Amateur Radio Club VK2HZ. The lighthouse area consisted of the historic lighthouse, the new solar array lighthouse, and three lighthouse keeper's cottages, and of course a view to die for. The point sits 98 metres above sea level with a sheer cliff face straight down to the water. The historic lighthouse sits 21 metres above the surrounding land and 114 metres above sea level.

In the early part of the planning, the Illawarra Amateur Radio Society met with a group called Lighthouses of Australia. This volunteer group fosters the preservation of historic lighthouses in Australia. Lighthouses of Australia kindly agreed to pursue the possibility of lighting the old historic lighthouse and extinguishing the more modern solar light for the Friday and Saturday night of ILLW 2007. Many months of preplanning were required for permission to have the old light operational for this period due to the now incorrect 'character' sequence of the old light compared to the new solar light.

Jordan, presently studying for his 'F' call, and Jacob VK2FIXX, show their satellite tracking equipment.

The combined clubs members met at the lighthouse complex on Friday

continued next page

GRES *continued*

interesting point made by Phil was that there has been an increase in the number of solar arrays being installed on urban properties. They are fast becoming a status symbol, or if you like, a fashion accessory for the house.

Again this year we took part in the International Lighthouse and Lightship weekend. We once again set up a station at Aireys Inlet at the "Split Point" lighthouse. For readers not familiar with Victoria, Aireys Inlet is a small coastal town on the Great Ocean Road about 55 km from Geelong. We set up stations on both HF and VHF. The antenna used on HF was a G5RV, one end of which was secured to the top of the lighthouse. There were many visitors to the lighthouse over the weekend which meant good exposure for both amateur radio and our society.

Our group of retirees continues to meet every Wednesday morning to work on club projects. This means that routine maintenance on the rooms can be carried out without interfering with our regular Thursday evening meetings. Also our computer group continues to meet on the 1st and 3rd Friday of every month. We also conduct 2 weekly on air nets. The first is Monday evening at 2030 on 146.525 MHz FM. The second on Wednesday evenings also at 2030 Hrs on 3.63 MHz and is for those interested in swapping SSTV pictures. Both groups would welcome non club members to join in with them either for a chat, or to swap pictures. Visitors to Geelong are invited to our meetings either of a Thursday evening at 8 pm or Wednesday mornings about 9.30 am. The meeting rooms are at 237A High St. Belmont.

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morning and commenced setting up the temporary station. Two antenna towers were constructed. Tower one consisted of a six metre guyed pole with a 2 m/70 cm dual band vertical on top and horizontal Yagis for 2 m, 70 cm and 23 cm below. The other tower was a seven section twelve metre guyed mast with a 6 m vertical on top, 10/15/20 m tri-band Yagi below, with long wires and centre fed dipole antennas for 20, 40, 80 and 160 metres.

The Illawarra club's Coast Link 2 metre repeater network was used for liaison to guide visitors to the site and to keep the information flowing to club members of progress over the weekend. The club's IRLP node (6018) was also used to provide an avenue for amateur radio operators whose QTH was located away from the coast to have direct contact with the lighthouse station for liaison. The club also activated an EchoLink node from the site via Telstra's Next G network.

As the start time approached for the event, club members tuned antennas and tweaked rigs. During the event, fox hunts were set up to break the monotony of calling CQ during the rostered off periods. Satellite communications were also an entertaining part of the weekend with a couple of laptops continuously plotting their paths for the curious. Handheld radios and antennas were used for many satellite QSOs.

A short news story was shot by the WIN TV news crew depicting the lighthouse and the amateur radio station. This clip can be viewed on the Illawarra Amateur Radio Society's website www.iars.org.au or you can search for VK2AMW on You Tube.

About 100 members of the public assembled in misty weather conditions to see the historic light being lit on Saturday night. The streams of light emanating from the light itself were truly awe inspiring. Until you have seen a lighthouse up close, it is hard to imagine the sight! The two lighthouse keepers over the weekend were Ian Clifford and Garry Searle. They were both kept very busy with tours of the light and ensuring the continuity of service.

All in all, it was a fantastic weekend. Many contacts were made to other lighthouses in Australia and New Zealand along with lots more contacts to amateurs in many countries.

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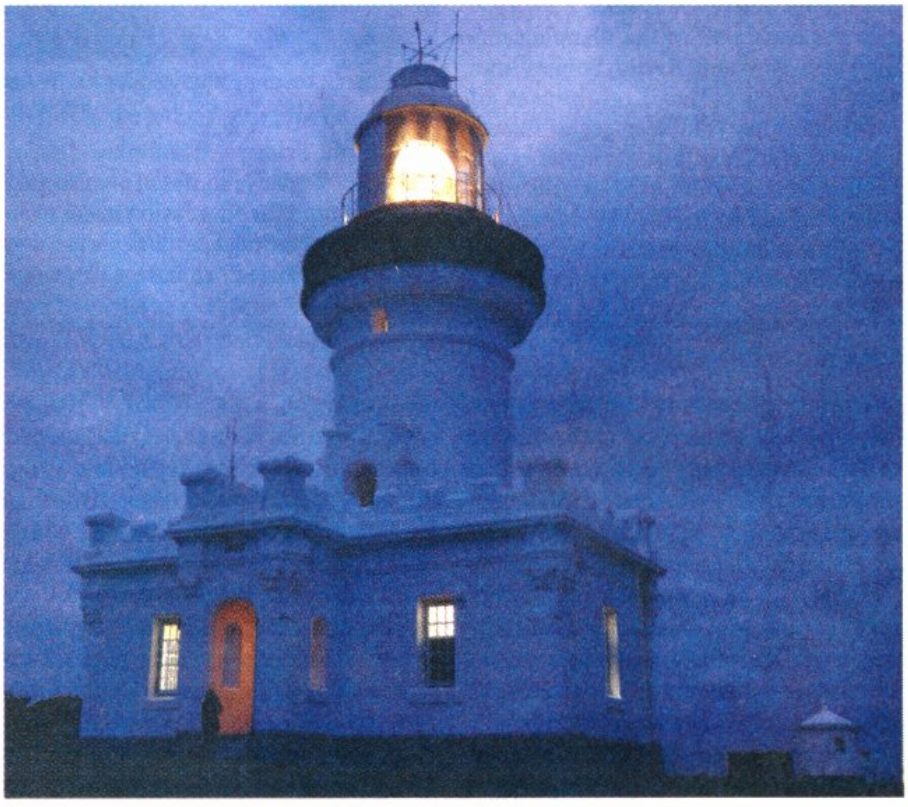
The magnificent Point Perpendicular lighthouse.



The Point Perpendicular lighthouse at dusk, with the light blazing.

An enlightening trip to the Williamstown Lighthouse and Time Ball Tower

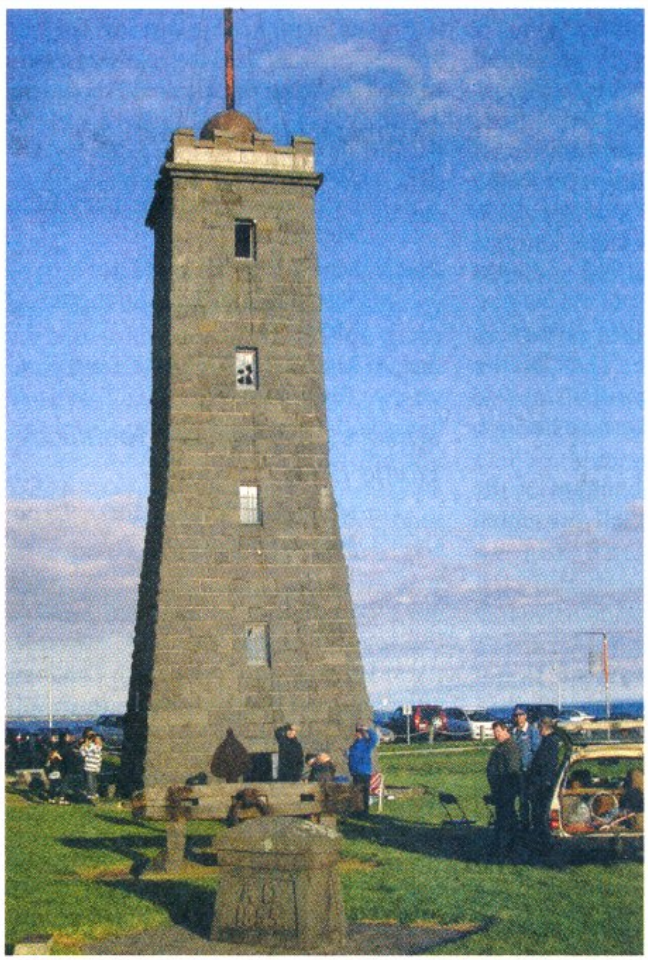
Joe Chakravartti VK3FJBC.

During the International Lighthouse and Lightship weekend (ILLW), I decided to visit the Williamstown Lighthouse and Time Ball Tower to see what the folks from Amateur Radio Victoria (ARV) were up to. They had activated VK3WI for the event and I had to check it out as I had never been part of an event like this before.

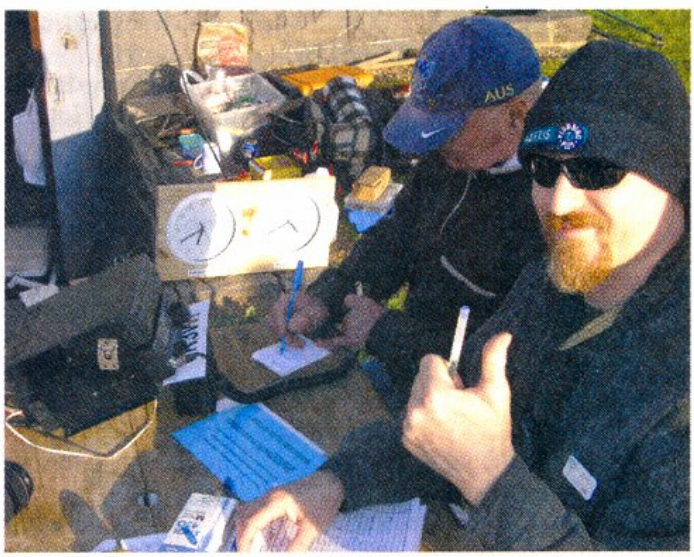
The weather was perfect and the kettle was on the boil, with a jar of coffee beside it, when I got there at 1630 hours. Terry VK3UP was hard at work logging for Michele VK3FEAT on a (mobile!!) TS-440S making contacts from a 4-wheel drive parked on the grounds of the lighthouse. The main station at the base of the lighthouse consisted of another Kenwood being operated by Graeme VK3ZGD (at the

continued next page

Joe VK3FJBC adds a few QSOs to the total.



The Time Ball Tower and Lighthouse, at Williamstown in suburban seaside Melbourne.



John VK3FJRB does the logging while Graeme VK3ZGD works on building the QSO total.

News from...

Rossco VK4AQ

As many of our readers receive this edition of AR in their post, WIA Board members, Queensland Advisory Councillors and VK4 club representatives will have attended the annual President's Luncheon in Brisbane and will be up to speed on the Board's plans and strategies for the next twelve months. I will report on the Luncheon in next month's magazine.

I would like to see more input from southern clubs and I have to say that I am disappointed with input thus far. The success or failure of this column will depend upon the contributions from all clubs within the State.

TARC (Inc). A major highlight of the past month was the 18th Townsville Amateur Radio Club's Biennial Convention held in the surrounds of James Cook University. A record number of attendees enjoyed participating in a wide ranging series of lectures, trade displays, competitions and monster auctions. Then, of course, there were the much anticipated social gatherings over two nights at the Centenary Hotel in Pimlico.

Friday's Meet and Greet at the Centenary included the Official Opening of the Convention by MC Wally Watkins VK4DO. Many old friendships were rekindled and a host of first time "eyeballs" will turn into lasting friendships, I'm sure.

Saturday was a very busy time with trade displays offering all the beaut bits of gear over which we drool. I was at the Convention in my role as QAC representative and had a WIA booth set up opposite Navcom's Yaesu and Icom stands where business appeared to be brisk all weekend. Likewise the stalls operated by antenna manufacturers TET-Emtron and KVK Antenna Systems always had a good gathering around them. Newcomer Standard Vertex dealer RDXG Communications had a very interesting Tri Band Spider Beam antenna atop a locally made tower on display which attracted much attention.

The future of WICEN in parts of Queensland was the platform for a thought provoking lecture presented by Bill VK4XZ during the forenoon. Following a lovely luncheon in the JCU Dining Hall, Professor Mal Heron gave a presentation dealing with *Radio Remote Sensing of Oceanographic Phenomena* such as sea state, currents and tsunamis which had the audience quite enthralled.

Don Dinnie VK4ZCQ then gave a very interesting lecture entitled *The Obscure History of Solid State from 1846 to 1946* which ensured much discussion late into the evening.

The Saturday night banquet at the Centenary Hotel was well presented and well attended. The Tablelands Radio Group turned out in their Tuxedo T shirts and I am sure this will start a trend for future such dinner gatherings given the favourable comment received. Quips were fast and furious and it was just as well that the rather good-looking and buxom lass carrying a huge tray of fresh buns out to the tables had a fine sense of humour. The food was fine, the wine even finer and the friendship topped it all. The only downside was that the Cowboys were playing the semi finals at the same time and many a furtive glance was directed at the large screen TVs around the venue for a large part of the evening.

Presentations of trophies for the Homebrew and Craft competitions were made following the meal and included:

Technical Home Brew

1st	Trevor Gregory VK4ZFC for a PIC based high accuracy LC Meter
2nd	Max Riley VK2ARZ for a Visual/Aural Field Strength Meter
3rd	Max Riley VK2ARZ for the Topsy Tester

Juniors U12 Section, Technical Home Brew

Michelle Wagele for a Lego Morse Sounder

Williamstown Lighthouse and Time Ball Tower

continued from page 35

time) with John VK3FJRB logging. John VK3ARK and XYL Jean VK3FJYL were already present and I heard later that they had brought around some of the famous EMDRC 'chilli sausages' for lunch. I then figured out why the whole place was buzzing with activity.

Jim VK3PC gave me a quick update on the progress made by VK3WI – apparently more than 300 contacts and more than 25 lighthouses up to that point. And they still had the rest of the afternoon!

I decided to try my hand at the field station and with Jim logging for me I managed to add a VK2 and VK3 station to the list before handing it over to the next operator.

An inquisitive group of locals had gathered and I took the opportunity to answer some questions and hand out a couple of the familiar 'Calling CQ' brochures. One of the locals even filled me in on the local history of the place. As I was leaving, I encountered John VK3FJRB getting ready to put in some serious time on the airwaves, having donned a hooded overcoat. I found out the next day that he was there till midnight before going home from an action packed ILLW weekend. Well done all.

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Technical Home Brew (with humour)

Ray Schinkel VK4NET for ROBOT – Ray's Outside B'cast Operating Tower.

Craft Home Brew

1st Evelyn Bahr VK4EQ for *A View from a Window* needlepoint

2nd Sheila Morrison VK4PAL for *Pearl Necklace*

Car Boot Sale Best Presentation

Roger Cordukes VK4CD for *Generators, Radios & Fresh Produce*

Ken Robertson Memorial Award

(for the amateur who, during the past two years has experimented, accompanied by efforts to educate others in the fields of VHF and UHF communications.)

John Roberts VK4TL

Several other presentations were made during the evening.

A monster auction went off extremely well and bidding was lively on a host of "mystery prizes."

I can safely report that all in attendance went home fully sated and were able to sleep well for the remainder of the evening.

The Convention was off to a flying start on Sunday morning with a lively car boot sale in one of the JCU car parks and then a very well attended lecture by Phil Grimshaw VK4KVK, where he gave an insightful presentation titled *Understanding and Customising the G5RV Antenna.* This lecture proved quite popular given that it ran about an hour over the allocated period with questions alone.

The Convention concluded with the Monster Auction in the University grounds following the lunch break. As usual, much treasure was available to the discerning bidder and I do not think anyone left empty handed — or disappointed.

Any undertaking the size of the TARC Convention just does not "happen" and all credit must go to TARC stalwart and human dynamo, Gavin VK4ZZ, and his team of dedicated supporters, and sponsors, who put in a superb effort to bring it all together. Well Done TARC and TARC Sponsors!

The Ipswich and District ARC conducted its Annual General Meeting on August 27 where the following office bearers were elected to guide the club through the next twelve months:

President:	Mike Charteris VK4QS
Vice President:	Wayne Bryce VK4AB
Treasurer:	John Edwards VK4IE
Secretary:	Bob Beck VK4CPM
Station Manager:	Rob Bryce VK4HW

The Club is looking forward to a big year with a lot of work to do on the Clubhouse together with a host of WICEN events.

Five of our members, Mike Charteris, John Edwards, Gary Neilsen, Bob Beck and Rob Bryce recently attended the two-day Assessors Course at the Gold Coast Radio Club, so they could undertake examinations for the budding Amateurs in the District. It is full steam ahead for Ipswich and District which is looking to grow the Club this year with lots of inquiries relating to the Foundation Licence.

Our meetings are held at the clubhouse at 10 Deebing Street, Denmark Hill on the 2nd and 4th Monday nights of the month at 7.30 p.m. All welcome. Coffee and tea are also put on by the Club free of charge. We look forward to seeing you there.

South Coast Amateur Radio Club (SCARG): Congratulations to Jan Kavanagh from Tree Tops on the issue of her Foundation Licence VK4FJAN. Congratulations also to Bill VK4LC for being top of the Honour Roll in the WIA Open DXCC Standings.

SCARG Nets are conducted on 3605 kHz each Thursday at 1930 and on 147.800 MHz at 0900 daily.

The ***Tableland Radio Group (TRG)*** recently gathered at the Mareeba RSL for a lovely luncheon where Eric VK4EDN and XYL Dulcie were esteemed guests. Those in North Queensland would know Eric as the stalwart Net Controller of the daily CW Gnarly Net on 80 m. The Group is planning a couple more of these functions in the lead up to the Christmas break.

Following the Group's successful ILLW at Cooktown in August, it has been decided that changes need to be made to the format prior to next year's event. Firstly, on the advice of the Cooktown Shire Council, the Group will be reducing the number of participants as, unfortunately, our success has been our undoing in that regard. Secondly, catering will be much more subdued and it has been decided that we will do more sitting around the poolside BBQ next year during the event lead up. Logistically this makes much more sense on such a long trip. However, change and "impromptu adaptability" are key features of amateur radio operators and the Group will take it all in its stride.

The Tablelands Radio Group has taken out the callsign VK4GHL on a permanent basis as of this month when it was decided that they would also incorporate this call into the many other activities planned for the next twelve months.

Evelyn Bahr VK4EQ Winner of Craft Home Brew (Needlepoint) with her creation

News from...

VK4 *continued*

Half a dozen TRG members ventured to Townsville to be part of the North Queensland Radio Convention and were impressed with the efforts of the TARC in putting together a great technical and social event. The product displays put on by Navcom, RDXG Communications, TET Com and KVK Antenna Systems were first class.

Present activity within TRG is focussed on getting better antennas and independent power systems in place and some members have invested in new transceivers in the last year. After Cyclone Larry paid the Far North a "close encounter of the extreme wind" visit, TRG members have become acutely aware of the necessity of having an ability to get on air after a major disaster and remain operational for an extended time without mains power. Most within the group are connected to, or changing over to, independent power supplies, notably heavy duty gel cells charged by solar power.

Tablelands Radio & Electronics Club (TREC): The AGM at TREC was held in the Club Rooms in Mable Street, Atherton, on Saturday 15th September where the following officials were elected for the next 12 months:

President: Trevor Gregory VK4ZFC
Vice Pres: John Roberts VK4TL
Secretary: Dale McCarthy VK4FDMC
Treasurer: Ron Goodhew VK4EMF
Committee: Jeff Cochrane VK4BOF
Stuart Dunk VK4SDD

A Foxhunt in November is the next scheduled outing for the club.

I look forward to an increased input from Queensland Amateur Radio Clubs for the Christmas edition of AR prior to the cut off date of 8th November.

Mareeba War Birds. During the RAOTC Old Rigs Contest between 0600 – 0800 UTC on 3rd November, Mareeba Warbirds Museum's Nick VK4YT will be operating using 65 year old WW II radio equipment as follows:

CW 7.020 to 7.030 MHz
AM 7.055 MHz

Nick is an avid restorer of WW II rigs and all of his work is on display at the Museum if and when you are next passing Mareeba aerodrome.

Central Highlands AGM report

Activities proceeded well with the AGM Banquet put together well by Dot, Dawn and helpers and the meat tortured into a cooked state by Gavin.

Next came the AGM chaired by Mark VK4KMR.

Mark welcomed everyone and said a special hello to those attending for the first time. Mark advised all that the first meeting to establish the club was held 20 years ago in Clermont.

There were still 3 original members with the club in the form of Mal VK4FVL, George VK4KAL and Mark VK4KMR.

Mark advised the meeting about the successful completion of the Central Highlands Repeater System UHF Linking project.

The following office bearers were duly elected:

President: Mark Robinson VK4KMR
Vice President: Steve Woods VK4SMW
Secretary: Gordon Loveday VK4KAL
Treasurer: Dot Loveday
Technical Officer: Steve Woods VK4SMW
Committee Members: Harry Cox VK4LE, Roy Moore VK4YRO

The ***Gladstone Amateur Radio Club*** will hold its annual beach BBQ at Millennium Esplanade, Tannum Sands.

All are invited for a fun and relaxing afternoon, starting at 12:00 midday Saturday 3rd November. There will be a mystery auction and games as well as a few refreshing drinks in the shady picnic area by the beach.

For out-of-towners, just put in a call on 146.500 MHz or the repeater on 146.625 MHz for direction, or look for the clubs distinctive mud-crab banner.

RSVP gladstone_ar_club@yahoo.com.au

Justices of the Peace in Southern Queensland

GLADSTONE: Rick Wright VK4HWN Justice of the Peace Qualified 4972 7147

SUNSHINE COAST: Amanda Winchester VK4HIP is registered as a Justice of the Peace, 3/148 Maroochydore Rd, Maroochydore 4558, Phone 5443 5708 (Outside school hours please)

Geoff Sanders VK4KEL is registered as a Justice of the Peace (Qualified) and is on telephone 5445 0280

VK7

Justin Giles-Clark VK7TW
Email: vk7tw@wia.org.au
Regional Web Site: reast.asn.au

Outstanding VK7 DXer

Congratulation to Peter Sykes VK7YP who is on the DXCC Honour Roll with 328 countries worked. Peter took up amateur radio on his retirement from the ABC and 20 years later succeeded in working all the recognised amateur radio countries with the last being Aves Island. Richard VK7RO comments that *there are so many amateurs poring over the maps and administrations of remote places that there will probably be even more countries "discovered" for amateur radio purposes before long. DXing is a never ending quest.* Our congratulations to an outstanding DXer: VK7YP.

2007 Sewing Circle BBQ

By the time you read this VK7's big day out will be upon us. The Fourth of November at the QTH of Ken VK7DY and Wendy VK7FWJS at Orielton - 30 km east of Hobart is the venue. Show & tell, homebrew contests, demonstrations, and much more will be the order of the day. Come along, meet new and old friends, bring the partners and family and your own picnic basket. See you there.

North West Tasmanian Amateur Radio Interest Group

There have been a number of enhancements made to the club packet

BBS and EchoIRLP nodes. These include enabling the reading of over 500 BBS bulletins via the web. The EchoIRLP nodes 6124 & 6616 can now be monitored by remote web access and using local DTMF access codes users can now access - local status, nightly broadcast news replays, weather reports, voicemail and random node call. Details can be found at: http://www.vk7ax.id.au/nwtarig/

The Monday night broadcasts have been changed and the Q5 Education Hour program is now airing in a special 30 minute format. Broadcasts are played automatically on Monday, Wednesday, and Friday Nights via VK7RMD on 2 metres.

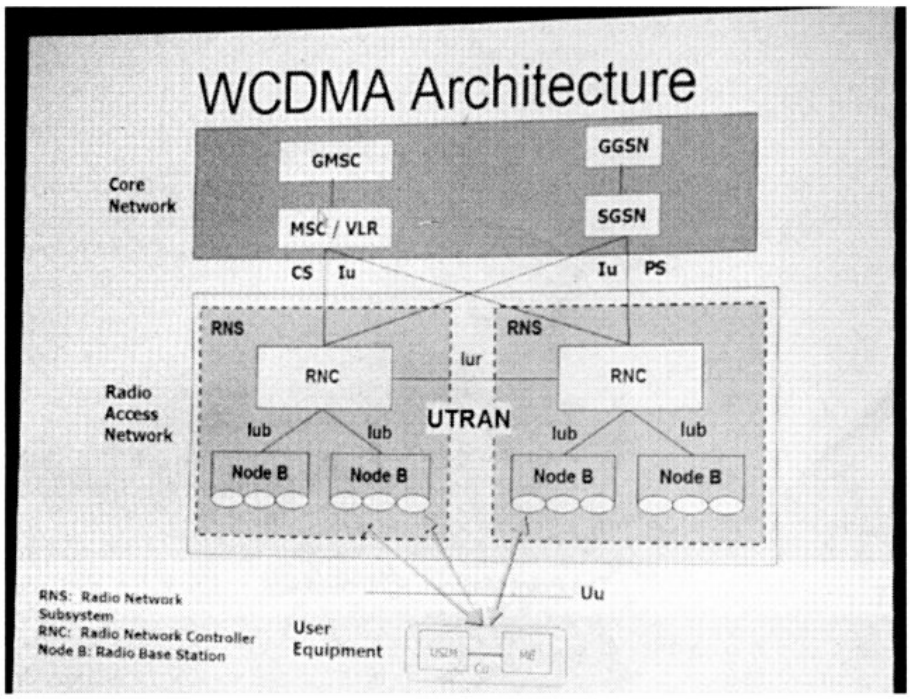
Northern Tasmania Amateur Radio Club

September 12 NTARC's guest speaker was Mr Kerrie Finch MLC who gave a most entertaining account of his time working within the ABC. Greg Todd VK7YAD and Norm Deitch VK7AC gave a talk on BPL and how it affects our hobby. The VK7RAA and VK7RWC link has been replaced by Joe VK7JG and it is now working very well, thanks Joe.

Radio and Electronics Association of Southern Tasmania

The first Standard licence upgrade course is in full swing with 12 participants and by the middle of November there will hopefully be many more standard licensees in the South. The REAST committee has after much discussion come up with five priorities for the club and are actively pursuing these. These focus on training, upgrading, more on air activities, greater promotion of AR and getting more females into REAST and radio. REAST's ATV experimenters' nights have been contacting clubs around Australia on IRLP and having inter-club rag-chews which have proved to be great on-air social nights.

REAST's October talk was given by Andrew Burt who is a Technology Specialist with Telstra on all things mobile wireless technology and especially the NextG network. Andrew took about 30 attendees through the different systems, their characteristics, protocols, limitations, and the impressive features this technology offers. This was a fascinating talk and thanks to Andrew I think attendees are much wiser about the new network Telstra is rolling out.



Part of the REAST NextG presentation.

VK5

Adelaide Hills Amateur Radio Society

Christine Taylor VK5CTY

Sadly we have to report that our President Jim VK5NB has become a silent key. He had a trip overseas earlier this year during which he visited a number of places of interest to amateurs, as well as participating in a gathering of his clan, but unfortunately almost from the time he returned he had been unwell. He gradually became more and more affected by an incurable condition and he died on Wednesday evening September 19th.

A minute's silence was held at the monthly meeting on the following evening, and a number of members attended his funeral. He will be missed.

The lectures at that meeting were given by two of our members.

Rob VK5RG spoke at some length about the pluses and minuses of the G5RV antenna. He especially emphasised the need to use a balanced feed line with this antenna. The talk generated many questions.

Lyall VK5ZNB then spoke about the causes (and cures) of power line interference. He illustrated his interesting talk with a collection of insulators etc and gave the audience a chance to see the damage present on some of them. Another talk that generated many questions.

If you are in Adelaide on the third Thursday of the month you are welcome to attend a meeting of AHARS. Please contact John VK5EMI or David VK5AMK. Both are QTH the callbook.

Don't forget the big Buy and Sell on 17th November.

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VK5ARC Lighthouse weekend at Point Malcolm

Graham Thomas VK5GCT

The South Coast Amateur Radio Club (SCARC) operated the Club station VK5ARC by activating the Point Malcolm lighthouse - AUS-247 (locator PF94nm). This light was constructed in 1870 and decommissioned in the 1930s, and is believed to be the only freshwater lighthouse in the southern hemisphere. Originally built to guide paddle-steamers through the 'Narrows' between Lakes Alexandrina and Albert, its current usage is to guide boats navigating the lakes.

As the lighthouse is on private land and in keeping with the requirements of the event, SCARC set up its portable operation on a nearby reserve within 500 metres of the light and its outbuildings. Mal VK5MH, John VK5FTCT and Graham VK5GCT used a borrowed 'pump-up' mast to mount the G5RV at about 8.5 metres at the apex with 6 metre support poles at each end. A Comet CHA-250BX vertical was also erected to provide an alternate antenna. Equipment used was a Kenwood TS-440S transceiver fed through a homebrew tuner. The efficiency of horizontal and vertical antennas was compared by conducting experiments on both 80 and 40 metres. The results are still being analysed. It will be no surprise to readers of this magazine that each proved far superior at various times.

Operation commenced at 1300 local time Saturday 18 August and continued until 1200 local time on Sunday, with a break for some much needed sleep. Some 123 contacts were made with 43 of these being with lighthouse stations in all VK states except VK8, and included 1 VI special event station on Montague Island.

The break down of contacts is:

VK 1 – 1; VK2 – 40; VK3 – 39; VK4 – 8; VK5 – 26; VK6 – 4; VK7 – 2; VI – 1.

This was SCARC's first foray into the Lighthouse event and the participants hope it is the first of many future SCARC involvements. We are grateful to the many stations that were both tolerant and patient. Friendliness and camaraderie were very evident which contributed to our euphoric feeling at the conclusion of a special weekend in many, many ways. This event clearly demonstrated the real spirit of amateur radio.

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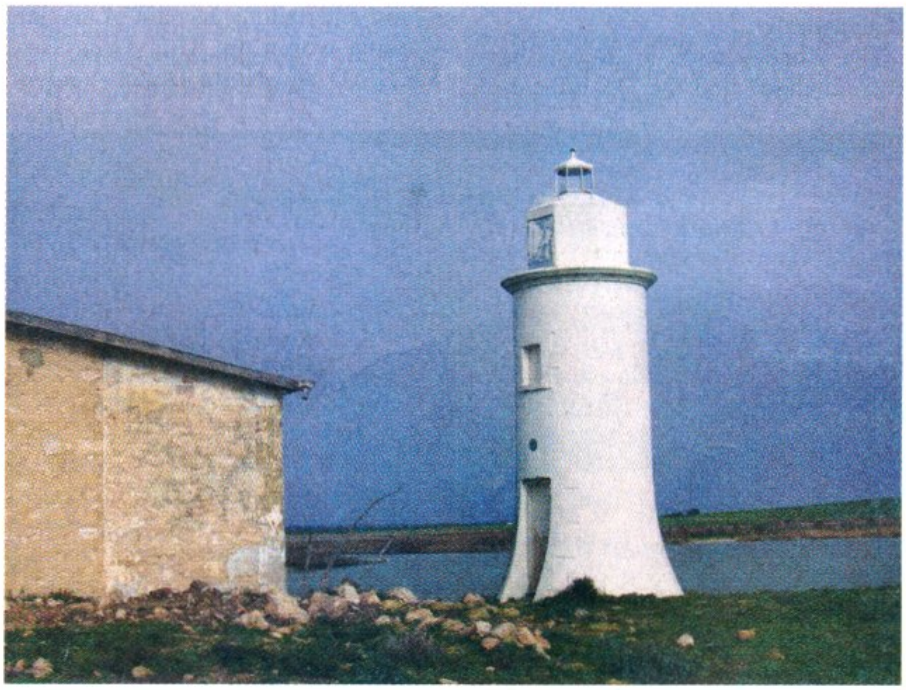


The Point Malcolm lighthouse

Mal VK5MH and John VK5FTCT hard at work.

Phil Smeaton VK4BAA

Contest Calendar November – December 2007

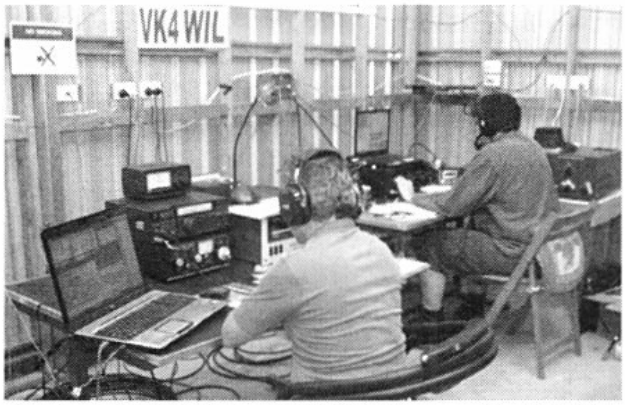
Nov	10/11	Japan International DX Contest	SSB
	10/11	Worked All Europe DX Contest	RTTY
	17/18	Spring VHF/UHF Field Day	CW / SSB / FM
	24/25	CQWW DX Contest	CW
Dec	1	RTTY Melee	RTTY
	8	ARRL 10 Metres Contest	CW/SSB
	22/23	OK DX RTTY Contest	RTTY
	26 to 13 Jan 2008	Ross Hull Memorial VHF Contest (VHF/UHF)	CW / SSB / FM

Welcome to this month's Contest Column

By the time that this edition of AR hits the mail boxes of WIA members, the Oceania SSB and CW contests along with the SSB leg of the CQWW DX contest will have taken place.

The international contesting season is in full swing, with national and international records up for grabs. Weeks or even months of plans and preparations swing into action. LF will be taking the brunt of the traffic with the occasional sparkle of life on the HF bands to whet the appetite for anyone looking to augment their DXCC totals or to get that illusive IOTA island into the log.

The usual culprits have been hard at work with station preparations, with The Northern Corridor Radio Club in Perth having erected some impressive hardware for Top-band. These guys spend so much time thinking about, planning and then building antenna systems for the various contests and other activities of the group members, I am surprised that they actually have time to get on the bands at all! But they do and they do rather well! The guys went 'bush' for the Oceania DX contest



:Photo 1: Bill VK4ZD and Phil VK4BAA operating VK4WIL in the Oceania Contest. Photo: Laurie VK4CCC.

(leaving the sanctuary of the Club facilities behind) and had a great time – apparently they did some contesting while they were there, too.

Westlakes have also got the antenna bug (they've had it for a while actually!) and have a similar philosophy on club activities and contesting in general.

The bug seems to have skipped across this vast land and taken its victims at east and west coasts at VK6ANC and VK2ATZ – until recently.

Lockyer Valley Radio and Electronics Club VK4WIL

Nestling in the depths of the Toowoomba area of Queensland, the Lockyer Valley Radio and Electronics club have fallen victim to the rigours of the antenna beast. Bill VK4ZD and his XYL Diane have been busy at their shack just outside of Gatton. Much effort has been spent, not to mention a dollar or two, in getting their shack into shape for the contesting season. Two towers are now in the air with 20 m and 15 m monobanders atop, with a myriad of ingenious wires strewn into the trees on their 5 acre plot. Bill and Diane have been contesting as club call VK4WIL from the location for a while now with some good results in domestic contests and international ones too I believe.

The club callsign VK4WIL was active during the Oceania contest in Multi Operator format. Station operators included Trent VK4TI, Dave VK4NDX, Alan VK4SN, Diane VK4KYL, Bill VK4ZD, Andrew VK4HAM, Laurie VK4CCC and myself.

I was delighted to accept an invitation to participate in the contest as my own antenna real estate is, let us say, in its infancy. What was previously in the air, got blown to the ground by the severe storm experienced in the area towards the end of the contest, anyway. However, on a brighter side, I did not manage to destroy the club beer fridge – as seems to be my forte on these occasions.

Photo 1 shows Bill VK4ZD and me in action at VK4WIL, on 80 m and 40 m respectively. Note, the lack of wall panelling in the shack – it really is work in progress for the Club, but its taking shape nicely.

Never say never!

When a band seems dead, it might not be! I was fortunate to be in the operating chair for the final hours of the contest. The final 15 m 'run' was a little bit of a limp rather than a run as such, but it produced a myriad of prefix mults again and again. The band actually seemed dead until a few CQs went out. JAs by the dozen resulted and then propagation swung to UA0 and finally EU. Things were a little strange though, as a number of EU stations were called and initial data exchanged but then they simply disappeared completely before the QSO was completed.

I am told that the propagation was not too favourable to many areas of VK and that we in VK4 might have got the pick of the bunch – at least in Laidley anyway! John Loftus VK4EMM also reports that propagation on 15 m and 10 m was subject to rare openings and rapid fading with only a brief opening to EU, Italy and Austria. For John at least, 20 m provided an excellent opening to Europe in the two hours from 13:00 to 14:59 UTC. 40 m and 80 m offered periods of above average propagation through heavy tropical static and a wide band of electrical storm activity that moved across VK2 and VK4 call areas.

Oceania Contest

Some Sage Advice from the Guru

Martin VK7GN offers some advice for Phil VK3YB who asked the VKCC forum for assistance.

Martin responds:

The best piece of advice I had in my early days was to run on the highest band on which you can maintain a pile up. However, the scoring system in the Oceania test tells us to almost do the opposite.

- *Oceania is a run contest for Oceania stations.*
- *S&P only while looking for a clear frequency for CQ (Unless of course you are power or antenna limited and even then you can find a bit to run on – the bands are not really crowded in the Oceania test so there are clear spots – perhaps not on 40!)*
- *You may work rarer DX searching and pouncing but you will not work more multipliers. Prefix mults means run for maximum score!!*
- *Operate on frequencies that do not end with zeros. If there are skeds or nets in Europe they will usually be on 14.210 or 14.220 etc.*
- *Oceania is a low band contest at this part of the solar cycle (do some 10 or 15 if living in the north but in the south get on and work some mults but concentrate on the lower bands where the northerners can get hit with bad tropical static).*
- *With 20 points for working the fellow next door it is worth a bit of wet noodle antenna on 160 to at least make a few.*
- *Make sure you understand all the rules – if you want to win read very carefully. Understand what is really meant by 120Px at the antenna etc.*
- *Expect the unexpected and never give up.*
- *Finally, contesting on the radio is no different from any other sport. Practice, practice and then try a bit of practice!*

You simply cannot get any better or more valuable advice than that – especially the last two points. I just wish that I had a "wet noodle" antenna that can produce the results like Martin's! Thanks for the advice, Martin.

Have a look at the VKCC at www.vkcc.com and ask a few questions yourself – answer a few too!

If you have any contest related material for inclusion within the column, topics that you would like covered or even some experiences and pictures you would like to share, then please feel free to get in touch via vk2baa@wia.org.au. See you on the bands.

73 de VK4BAA Phil Smeaton

27th ALARA Contest Results

25/26th August, 2007

Marilyn Syme VK3DMS

Well this was the best number of logs we have ever had! It was great to have such a large number of OMs taking part (even though there were many more on air who did not send a log!), and of course the interest shown by the F calls was terrific. Everyone seems to have enjoyed the experience, so perhaps even more will join in next year.

A special mention must be made of the effort put in by Emma VK2FEAH. She is only 11 and conducted herself very professionally and managed a very creditable score. Well done Emma – you have a special award for the youngest ever to take part!

Westlakes Amateur Radio Club operated with all YL members, who also did very well. It was such a pity that quite a few OMs had not read the rules quite thoroughly, and were confused by a Club (which of course can only score three points for YLs only) operated by ladies. Hopefully this confusion will sort itself out by next year. Congratulations to Gerald VK2HBG who became top OM for the second year, while Marisa VK4FMAR put in a sterling effort to take out the top F call.

The top scores are extremely impressive, and show great dedication (and possibly a sleepless night!).

I must thank all those who sent in their logs so early – my email was swamped. This was very good, as I left for a month overseas during September. I only had 16 logs to check when I arrived home – very welcome! The email facility seems to be very popular, and I certainly appreciate receiving them that way.

I did notice that the full signal report was not always noted – this is one of the rules, so please try to make your logs correct.

Now I guess we will all be preparing for another enjoyable Contest in 2008 on the last full weekend of August, which will be 30th & 31st. I'll hopefully catch you all again then.

Thank you everyone for making it such a wonderful Contest.

Catherine VK4VCH	2425	Top overall, Top phone, Top VK4 ALARA member
Pam VK2PAM	1917	Top VK2 ALARA member
Rosa VK2ANG	1880	
Rosanne VK7NAW	1048	Top VK7 ALARA member
Marisa VK4FMAR	829	Top Foundation licensee
Lesley VK5HLS	729	Top VK5 ALARA member
Westlakes AR Club VK2ATZ	706	Top Club
Gerald VK2HBG	566	Top OM
Jean VK3FJYL	549	Top VK3 ALARA member
Mike VK3AVV	472	
Dawn VK4FTBA	376	Top VK non-member
Pat VK3OZ	306	
Tracey VK2FTBH	287	
Ralph VK2IRP	276	
Emma VK2FEAH	271	Special Award
Christine VK5CTY	231	
Margaret VK4AOE	214	
Kerri-May VK3FDSD	212	
Tom VK4ATH	208	
Neil VK4FHYH	201	
Jenny VK5ANWp3	199	
Dot VK2DB	193	
Christ VK2LCD	191	
Celia ZL1ALK	175	Top ZL ALARA member
Gold Coast ARC VK4WIG	168	
Marilyn VK3DMS	167	CHECK LOG
John VK3MGZ	156	
Muriel VK3KNM/2nd op.	146	
Central Coast ARC VK2AFY	143	
Gail VK4FGLS	136	
Grahame VK3YCG	100	
Gerard VK5ZQV	98	
Steve VK5AIM	93	
Lyn VK4SWE	92	
Jeanne VK5JQ	88	
Marilyn VK7FMAZ	84	
Justin VK7TW	74	
Coilin VK3LO	74	
Elizabeth VE7YL	71	Top VE ALARA member
Susan VK3FXXX	70	
Tim VK7ATK	69	
Alan VK8AV	65	
Minnie VE3DBQ	60	
Keith VK5OQ	59	
David VK3FUEL	50	
Diana VE7XYL	18	
Bill VK2ZCW	15	
John VK2ZOI	10	
Peter VK2ZCU	5	

SUMMARY:

ALARA members	**25 (inc. 4 DX members)**
Non-member YLs	**2**
OMs	**19**
Clubs	**3**
TOTAL LOGS	**49**

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ALARA

Christine Taylor VK5CTY

The Contest

Well, what a marvellous ALARA Contest. Propagation was the best it has been for years. There were people on the air all the time. There were a large number of new F calls, and lots of OMs joined in. There was even at least one Club heard all weekend.

The number of logs received by Marilyn VK3DMS before the closing date was the largest ever. She is delighted, even if it means more work for her.

In the last couple of hours several stations were heard with over 600 contacts, so the scores will be really high this year.

Thank you everyone for participating. Hope you enjoyed it and hope you will all be there next year, too

The results are published in this issue of *Amateur Radio.*

A visit to the North Queensland Radio Convention

With a couple of friends, I spent a week in Townsville covering the weekend of the NQRC Convention. We had a thoroughly enjoyable time. As southerners we enjoyed the balmy weather very much, and the hospitality was great.

The evening we arrived we put out a call on the local repeater which was answered by Gavin VK4ZZ. He joined us for a meal and then took us up to the top of Castle Hill for an overview of the town before driving us to our cabin. It is unusual to have a hill in the middle of a town so you can see it spread out on all sides.

This prominent hill cannot be called a mountain. It is one metre too short. For a few weeks it was taller after the local school children built a cairn!! Unfortunately a storm blew away the stones before it could be renamed!!

After a couple of days sightseeing we were ready for the Convention, starting with an informal dinner provided by the club: lots of opportunities to meet people and take photos.

There were several ALARA members who are also members of the NQRC and by the end of the weekend there were two new ones as well.

There was plenty of activity during the Convention, with three lectures on the Saturday afternoon and another on Sunday morning plus a Car Boot Sale on Sunday morning followed by a Monster Auction in the afternoon. Not sure how many monsters were sold but I was delighted to find a small solar panel at the Boot Sale. This is now charging some nickel-iron batteries to run my hydroponics (No I do not have the hydroponics inside the house. It is in full sunlight and produces lovely fresh vegetables, but no strange grass!!)

The Convention was run within the grounds of the James Cook University where the canteen catered for lunches very satisfactorily. The setting was truly tropical and deliberately kept as natural as possible so the radio amateurs were able to watch wallabies and brush turkeys foraging in the gardens and on the lawns. Of course the kookaburras were amused by our antics!

There were craft activities for the YLs not interested in the lectures and a lovely drive to a tea room that has been opened in an old slab hut. Everyone had a good time.

The people attending the Convention came from all up and down the Queensland coast with a few extras, like us, from the other states. There was a table displaying the WIA goodies, and both Icom and Yaesu had their range of radios on show. To completely fill the needs of the amateur, Rob from TenTec and Bushcomm had a great array of antennas to choose from.

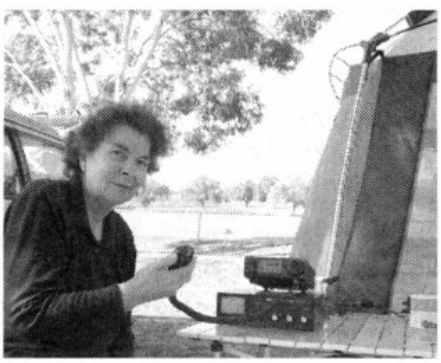
The photo has present, past and future ALARA members in it. It was something special to have a chance to meet them all.

L to R back row: Sheila VK4PAL, Dorothy XYL to VK4DO, Michelle, Lyndall VK4MZ, Christine VK5CTY, Dawn VK4HER
Middle row: Evelyn VK4EQ
Front row: Joan VK4TVL, Jenny VK5FJAY, Joscelyn VK4JJ

A visit to Parkes

The WIA AGM at Parkes was so successful others have taken the opportunity to visit Australia's radio telescope.

Jean VK4FJYL and her OM spent a few days at Parkes recently and thoroughly enjoyed the experience.



Jean at Parkes

Jean operating VK2ARK Kandos

Jean at the WIA table

Then they went on to Kandos where Jean operated VK2ARK, a station run by the local radio group.

Jean also visited the WIA table which had a really extensive display of goodies.

Now Jean is at home busily studying with the intention of upgrading before Christmas.

Good luck, Jean.

ALARA Awards

I hope you are all giving Kathy VK3XBA a lot of work checking your list of contacts with which you applied for your new and beautiful ALARA Award.

This Award is available to OMs as well as to YLs, don't forget. All you need is 10 contacts with ALARA members from four different call areas.

Sponsorships

Did you contact one of the YLs you sponsor? Somehow it is a special thrill to actually speak to a sponsor. Shirley VK5JSH is thrilled to have managed this with all the YLs she sponsors during this special year for our sister association, CLARA. Some of the contacts have been on Echolink while others have been on air.

A reminder about the CLARA 40th anniversary challenge to make at least 40 contacts with different YLs in this year 2007. Shirley has certainly done this already as have several other VK YLs but if you haven't started yet, it is probably not too late to start now.

If you were not able to talk to your sponsor why not drop her a note, snail mail or email. I am sure she will be delighted.

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Spotlight on SWLing

Robin L. Harwood VK7RH

All rather depressing, really!

This year is rapidly coming to a close and it is rather depressing. As you probably are aware, RAI Radio from Rome has discontinued broadcasting external service programming on HF after 77 years. It was one of the first shortwave broadcasters. Now they have opted for internet distribution and television instead of shortwave radio. It is unclear at this stage whether the shortwave relays of the domestic overnight service are continuing, although I have seen reports of news bulletins in various European languages continuing over MW and FM.

NHK Radio World from Japan also severely pruned their shortwave output on October 1st. They no longer broadcast to North America, Hawaii and the South Pacific and are also reducing their output to Europe but Africa and Asia continue to be their priority. There are now only three English broadcasts from Tokyo.

By now you are indeed aware of the changes in daylight saving within Australia. From 2008, there will be uniform changeover dates in Australia, with the exception of Queensland and the NT, that is from the first Sunday in October until the first Sunday in April. Our Kiwi friends will have an extra week because they instead opted to commence on the last Sunday in September until the first week in April.

Do not forget that North America and Cuba will be reverting to standard time on the first Sunday in November. The recent proposal of the Chavez regime in Venezuela to change their standard time from UTC-4 to UTC-4.30 was postponed after Chavez himself was confused whether clocks were going backwards or forwards. It reminds me of the old tale we were taught when we were in primary school of King Canute trying to stop the tides from coming in by his express command and naturally failing.

The BBC World Service is 75 years old this year and throughout November they will have programming looking back over that period. "The Beeb" was the first station I found on shortwave, when I started in June 1956. I well remember hearing the General Overseas Service on 25 metres around 6 a.m. one Sunday morning and promptly being reprimanded for being out of bed and tuning on the Philips dual wave radio without permission. I was only nine at the time. It did not, fortunately, deter me from shortwave listening.

You may have come across All India Radio from Bangalore on a very unusual channel of 10330 kHz. This was primarily a feeder before the advent of satellite relays and gave an opportunity for DXers throughout the world to hear India on a clear channel. At the end of September, these relays were discontinued from Bangalore and switched to Delhi and to 9870. This new frequency seems to be a bad choice as it is in heavy use by various senders.

Well that is all for now and until next month, good listening.

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VHF/UHF – an expanding world

David Smith VK3HZ – vk3hz@wia.org.au

Weak Signal

David Smith VK3HZ

Conditions are picking up and it's looking good for the coming season.

On 20 September, the Hepburn site indicated that there might be good conditions from northern Queensland to New Caledonia (FK8). At about 0600 Z, Kevin VK4ABP and Andru VK4KAY in Mackay reported hearing FK8 FM broadcast stations, and the FK8ZHA repeater up to S3. However, they were barely able to trigger the repeater and unable to raise anyone. Signals faded out by about 0900 Z.

The afternoon of 6 October saw the first VK to ZL contacts for the season. At 0430 Z, David ZL1BT reported hearing the Channel 5A TV from Newcastle. At 0445 Z, he worked Ross VK2DVZ on 2 m with signals up to S4. At 0530, ZL1BT worked VK2AMS (in VK2DVZ's shack) with signals now up to S9. Ron VK4KDD had gone out to his portable location at Clear Mountain near Brisbane. At 0730 Z, he worked ZL1BT giving a 4x1 report and receiving 4x4. Meanwhile, Nick ZL1IU had appeared. At 0735 Z, he worked VK2DVZ (5x7) and Steve VK2ZT (5x9). By 0753 Z, ZL1IU's signal had risen to S9+40 at VK2ZT's location, while ZL1IU was working VK4KDD (and presumably beaming further north). At 0807 Z, Wayne VK4WS worked ZL1IU and Zl1BT. VK4WS and ZL1BT then switched to JT65b digital and had an easy contact at around –18. By 0930 Z, the ZL stations had all retired to bed. The following morning (7 October), VK4KDD was again out at Clear Mountain and at 2210 Z, he again worked ZL1BT at up to S2.

The VK to ZL opening had some interesting propagation conditions. The weather chart showed a high-pressure cell off New Zealand with isobars forming an almost straight corridor between the north of New Zealand and the mid east coast of Australia. This provided the tropo enhancement. There was also a cold front coming through the Sydney area at the time, and all of the action was to the north of Newcastle. Steve VK2ZT was getting very strong signals from Nick ZL1IU, even though Nick was beaming towards VK4. It seems that the signals were propagating along the front, enhancing conditions considerably.

VK1 Portable Operations

On the morning of Sunday 23 September, Ted VK1BL and Andrew VK1DA were operational from Mt Ginini ACT. The object was to test Ted's recently completed equipment for 23 cm and 13 cm in preparation for the upcoming Spring VHF Field Day (17/18 November) with the additional hope of making contacts into the Melbourne / Geelong area. They were running approx 30 watts on each band using a 3 m long loop Yagi for 23 cm and a gridpack dish for 13 cm. For liaison, they had 100 W on 2 m and 40 W on 70 cm into reasonable-sized antennas.

Charlie VK3NX was also out portable near Geelong with the hope of working back to Mt Ginini. However, nothing was heard of Charlie's signals, although Charlie reported hearing brief bursts.

Ted and Andrew did make some contacts on 2 m and 70 cm into Sydney and Melbourne. They also worked a station in Bathurst on 23 cm and some local stations.

Rob VK1ZQR tried valiantly to extract their 2.4 GHz signal out of the S9 WiFi hash in his area without success. Their location was to the south west of a wire fence surrounding the AirServices Australia compound which would have significantly reduced the signal towards Canberra.

They plan to do additional testing, so look for them during the November Field Day.

EME

Ian VK3AXH reports an interesting 2 m EME contact:

On September 26, I woke up at around 4:30 am and not being able to settle decided to see where the moon was. I set things going to find the moon about 10 degrees off moonset. After looking at the EME Logger, I saw a station calling CQ on 144.118 MHz. However, approximately 1 kHz higher I could also see quite a strong looking signal so I retuned to 144.119 MHz to see who it was. RA6AX was just finishing a QSO with DL2NUD and as he registered -3db (big signal), I got all excited as it was the strongest signal I have ever seen off the moon.

At the end of his over I called him on CW for a minute and waited for any response. To my surprise he called me on SSB and we were able to easily exchange reports. At times he was up to 5/5 on my meter and I received 4/1. After a couple of overs and signing off with our 73s, we changed to JT65B for final 73 etc.

Ian suspects that RA6AX may be a club station using the station of RN6BN as they both use the same grid square (KN95). Ian has previously worked RN6BN at levels up to –6. RN6BN runs a monster station with 64 x 15 element H and V Yagis and a substantial amount of power.

Ian's setup consists of an IC-910H driving an AM17 amplifier feeding a 4x18 element array.

New Net

Ron VK4KDD reports that there is a new SSB activity net on 144.200 on Tuesday evenings from 1900 to 2100 EST. The idea is to create some weak signal activity in the evening, mirroring the activity that takes place in the mornings. Of course, aircraft continue to fly throughout the day, so Aircraft Enhancement can be used equally of an evening.

On a recent net, Glenn VK4BG in Hervey Bay worked Steve VK2ZT near Newcastle – a distance of over 800 km. Ron achieved a maximum distance of 640 km, working VK2IF, VK2ZT, VK2FPRG, VK4KK, VK4BG, VK4JMC and VK4HMR.

The only problem with operating in the evenings is that of TVI. If you have this issue, Ron has some suggestions for resolving it.

Friday 7/9	1285 MHz	Mt Coree to Orange (216 km)	P4
Friday 7/9	2415 MHz	Mt Ginini to Orange (241 km)	P3
Friday 7/9	3580 MHz	Mt Coree to Orange (216 km)	P4
Friday 7/9	5750 MHz	Mt Coree to Orange (216 km)	P4-5
Friday 7/9	10236 MHz	Mt Coree to Orange (216 km)	P3-4
Sunday 9/9	24150 MHz	Boorowa to Orange (120 km)	P3-4

Table 1

Log on to the VK/ZL Logger (www.vklogger.com) to see what is happening.

ATV DXpedition

Jack VK2TRF reports that he and Dan VK2GG had more fun than The Chasers on the APEC weekend, operating an ATV Microwave DXpedition.

Jack, with Gary VK2UNI and Rob VK2RMP as helpers, was in the Brindabellas near Canberra on Mt Ginini and Mt Coree and then to a large hill near Boorowa for the 24 GHz shot. Dan, with Dave VK2TDN assisting, was near Mt Towac, just in the shadow of Mt Canobolas near Orange.

A quick summary of the contacts achieved is in Table 1.

Congratulations to all involved.

New Optical Record

Further to last month, Clint KA7OEI and associates have extended the optical communications record to a staggering 278 km between two high (2900 m) mountain peaks in Utah. It took them several hours to align their transceivers, using an 8-inch telescope to spot the extremely weak red dot. The signal was not visible to the naked eye, and the voice was extremely weak.

Unfortunately, we do not have any line-of-sight locations in VK that are anywhere near that distance. 200 km is about as far as it goes here. So what that means is that the record is unlikely to ever return to VK, unless someone wants to go balloon mobile that is!

Please send any Weak Signal reports to David VK3HZ at vk3hz@wia.org.au.

Digital DX Modes

Rex Moncur VK7MO

Steve VK2ZT, near Newcastle, recently ran some tests with a CW beacon on 2 metres, and Jim VK3II, at Westernport, was able to use the waterfall program Spectran to establish there is a viable 856 km path. Following these tests, Jim suggested they try the Digital Mode JT65A and this produced good results with median signal levels varying from -15 to -20 dB. As a result, a number of stations have joined in and most weekday evenings there is now an active group of JT65A operators mostly on 2 metres checking out propagation in the South East of Australia. Many of these operators are new to the Digital modes. Stations involved include: Dave VK1DJA, Colin, VK2KOL, Steve VK2ZT, Jerry VK2APG, Matt VK2DAG, Mark VK2EMA, Bill VK2ZZF, Dave VK3HZ, Peter VK3SO, John VK3JT, Jim VK3II, Andrew VK3KAQ, Jim VK3ZYC, Phil VK4CDI, John VK4JMC, Ron VK4KDD, and Peter VK5ZLX.

The use of JT65A gives about 1.2 dB better performance than JT65B providing both stations are stable to within a few Hz over a transmission. Most operations are on 144.225 MHz with southerly stations transmitting first period. As the bandwidth of JT65A is just under 200 Hz, it is possible for a number of stations to use the same SSB passband by moving up or down a few hundred Hz. By use of the tolerance and freeze facility on WSJT, one can then decode all other stations working on the frequency. Activity is normally coordinated on the VK-ZL logger: www.vklogger.com

One advantage in using JT65 in the evenings is that it is a constant amplitude mode and thus much less susceptible to causing TVI.

It is interesting to speculate on the type of propagation. Weak tropo-scatter is continuously available up to 800 km between single-Yagi stations running 100 watts and at the longer distances gives signal levels around -28 dB. Some of the stronger signals are probably aircraft enhancement, with some being only short period strong enhancement as experienced on SSB due to forward scattering, but there are also longer periods of weaker aircraft enhancement due to side scattering.

There is an advantage in using the latest version of WSJT, Version 5.9.7. With this latest version one can right click on the callsign of any station you decode and WSJT will automatically set up the correct QSO procedure for terrestrial reporting, including the two character dB signal reports.

Peter VK3SO and Bill VK3JT both have their rigs GPS locked and have at times noted frequency differences of up to 6 Hz which suggests that they are in fact using aircraft enhancement and picking up the Doppler Shift.

It has been found that a number of the stations new to WSJT have had problems in decoding and the following is a useful checklist when one finds one can see a signal on the WSJT waterfall display which does not decode.

- Computer timing should be correct to within 2 seconds. The timing window of JT56 is not symmetrical as it is primarily designed around EME where there is around a 2.7 second delay. Thus, just because a station is copying you, it does not mean the timing is close enough for you to copy them.
- The mode must be the same as that of the transmitting station – normally JT65A for terrestrial contacts.
- Check the DF or difference frequency shown when WSJT attempts a decode and, if this is not the same as the frequency you see on the waterfall, use the tolerance and freeze facility to ensure decoding is restricted to the signal of interest. Tolerances as low as 10 Hz can be useful in separating a signal from a nearby birdie.
- Set the program to "Aggressive Deep Search" to provide maximum sensitivity.
- Set the "Sync" value to 0 to improve the prospects of gaining sync.
- WSJT uses two decoders: (1) called a Kotter-Vardy decoder that will decode any callsign or random

text (max of 13 characters) down to about –24 dB and (2) called the Deep Search decoder that will typically decode down to -28 dB but occasionally as low as -30 dB. The Deep Search decoder can only be used where the other station's callsign and grid square is included in the program's data base.

- Note that if the transmitting station has not correctly formatted a message then it will not decode with the Deep Search Decoder. The best way of ensuring that messages are correctly formatted is to use the latest version of WSJT and you can then right click on the other station's callsign and the formatting will all be set up correctly. If the signal is stronger than about -24 dB it may still decode with the Kotter-Vardy Decoder but an incorrectly formatted message will be treated as text and only the first 13 characters of the message are received. If you are in fact attempting to send a text message rather than two callsigns and reports, this must be limited to 13 characters.
- Meteor pings can often affect decoding. If you can see the meteor ping on the waterfall display it is often possible to set the tolerance to reject the ping.
- Use the AFC (Automatic Frequency Control) facility to compensate for frequency drift.

Steve VK2ZT and Mark VK2EMA have recently taken to EME using JT65b. Their grid square locations have brought about a fair amount of interest. Recently Steve worked over 10 stations in an hour.

Please send any Digital DX Modes reports to Rex VK7MO at rmoncur@bigpond.net.au.

The Magic Band – 6 m DX

Brian Cleland VK5BC

September was a very quiet month on 6 m with very few reports of any openings, the exception being 24th September when E openings were experienced across most of Australia. The equinox came and passed with only the Chinese TV on 49.750 MHz being heard on a few occasions, mainly in Northern Queensland. I guess being the bottom of the sunspot cycle this is to be expected, unfortunately with nothing unexpected occurring.

Early October: the band has shown some good sporadic-E activity, particularly down the eastern seaboard, as well as some good openings between VK5 and VK1, 2 and 4. Particularly good openings occurred on 7, 8 and 9 October with several contacts being made from VK4 to VK1, 2, 3 and 5, VK5 to VK1, 2 and 4 and VK7 to VK2. The VK6 beacon was also audible in VK2 and VK5 on the 9th October.

Much discussion (some very emotional) takes place between 6 m operators over the use of call channels. The band plan lists 50.110 MHz as the international call frequency and 50.200 MHz as the Australian call frequency. In operation though nearly all operators only call on 50.110 MHz. I monitor both call frequencies and have not heard one single CQ on 50.200 MHz in the last five years and for interest have made some CQ calls on 50.200 MHz without ever receiving a reply. From my point of view, you have to query the value of two call frequencies and I notice the same thing occurring on 10 m where operators only call on 28.490 MHz and rarely on the local nominated call frequency of 28.390 MHz. After all, you are entitled to call on the international call frequency hoping that you may receive an international reply. The important thing though is once contact is established you move off the call frequency as soon as possible whether you receive an international or local reply. Alternatively if you call on the international call frequency (50.110 MHz) and the band is open locally and you expect a local reply nominate a frequency that you are going to listen for replies to your CQ (e.g. CQ CQ 6 m listening 50.155 MHz). At the end of the day, common sense should prevail and you should be courteous to other operators wishing to make calls. I think we have all been caught where we think we are only going to exchange a report but the conversation develops and we have not moved off the call frequency immediately and I am sure most would have been caught in the excitement of a rarer contact. If a contact is taking place on the call channel (particularly local) advise them politely that you wish to make a call and ask them to shift frequency.

I would be interested in your views in regard to the use of the call channels and the value of the local call frequency. As 6 m operators, we need to sort the issue out and establish good operating practice among all operators prior to the next sunspot cycle peak when international DX will again be available and seen as a priority.

Please send any 6 m information to Brian VK5BC at bcleland@picknowl.com.au.

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Gridsquare Standings at 25 August 2007

144 MHz Terrestrial

VK2FLR	Mike	113
VK3NX	Charlie	106
VK2KU	Guy	102
VK3KAI	Peter	84
VK2ZAB	Gordon	78 SSB
VK3HZ	David	77
VK3PY	Chas	70 SSB
VK2KU	Guy	69 SSB
VK2DVZ	Ross	68 SSB
VK3CY	Des	68
VK2TK	John	62
VK3EK	Rob	62 SSB
VK7MO	Rex	61
VK3QM	David	58 SSB
VK2EI	Neil	57
VK3BJM	Barry	55 SSB
VK3BDL	Mike	51 SSB
VK3ZLS	Les	51 SSB
VK3KAI	Peter	50 SSB
VK3WRE	Ralph	50 SSB
VK2KU	Guy	47 Digi
VK2ZT	Steve	47 SSB
VK3CAT	Tony	46
VK4TZL	Glenn	45
VK5BC	Brian	43 SSB
VK3VG	Trevor	41 SSB
VK4CDI	Phil	41
VK7MO	Rex	41 SSB
VK7MO	Rex	39 Digi
VK3KAI	Peter	36 Digi
VK4CDI	Phil	36 SSB
VK2TK	John	35 SSB
VK4KZR	Rod	35
VK3ZUX	Denis	33 SSB
VK6HK	Don	33
VK2KOL	Colin	32 SSB
VK2AMS	Mark	31 SSB
VK3DMW	Ken	31
VK3ZYC	Jim	31
VK3VHF	Rhett	29 SSB
VK2KRR	Leigh	28 FM
VK3CJK	Chris	28 SSB
VK2EAH	Andy	27
VK2TK	John	27 Digi
VK1WJ	Waldis	26
VK2TG	Bob	26 SSB
VK3ACC	Gordon	26 SSB
VK5ACY	Bill	26 SSB
VK3BBB	Brian	25
VK5BC/p	Brian	25 SSB
ZL3TY	Bob	24
VK3TLW	Mark	23 SSB
VK3YB	Phil	23
VK4EME	Allan	23
VK3HV	George	21 SSB
VK1WJ	Waldis	20 Digi
VK3BG	Ed	20 SSB
VK6KZ	Wally	20
VK3AL	Alan	18 SSB
VK3UDX	Geoff	17 SSB
VK4TJ	John	17 SSB
VK2EAH	Andy	16 SSB
VK4CDI	Phil	16 Digi
VK4EME	Allan	16 Digi
VK6KZ/p	Wally	16
VK3ZYC	Jim	14 SSB
VK3VHF	Rhett	12 Digi
VK2EAH	Andy	11 Digi
VK2EI	Neil	11 Digi
VK4EME	Allan	9 SSB
VK6DXI	Mirek	6
VK6HK	Don	6 Digi
VK1WJ	Waldis	5 SSB
VK1WJ	Waldis	4 CW
VK4JAZ	Grant	2 FM
VK3QM	David	1 Digi

144 MHz EME

VK2KU	Guy	247
VK2KU	Guy	233 Digi
ZL3TY	Bob	233
VK3AXH	Ian	162 Digi
VK7MO	Rex	154 Digi
VK2FLR	Mike	120
VK4CDI	Phil	91 Digi
VK3CY	Des	70 CW
VK2AWD	Dave	52 Digi
VK2KU	Guy	39 CW
VK2KRR	Leigh	30
VK3VHF	Rhett	20 Digi
VK3HZ	David	19
VK3NX	Charlie	5
VK4EME	Allan	4 Digi
VK2DVZ	Ross	2
VK3AXH	Ian	2 CW
VK3AXH	Ian	2 SSB

432 MHz Terrestrial

VK2ZAB	Gordon	57 SSB
VK3PY	Chas	50 SSB
VK3NX	Charlie	49
VK3QM	David	47 SSB
VK3ZLS	Les	40 SSB
VK2KU	Guy	38
VK3HZ	David	36
VK2KU	Guy	34 SSB
VK3EK	Rob	34 SSB
VK3BJM	Barry	33 SSB
VK2DVZ	Ross	32 SSB
VK3CY	Des	32
VK3KAI	Peter	29
VK3BDL	Mike	28 SSB
VK3KAI	Peter	28 SSB
VK3WRE	Ralph	27 SSB
VK5BC	Brian	21 SSB
VK7MO	Rex	20
VK3UDX	Geoff	19 SSB
VK2TK	John	18
VK7MO	Rex	18 SSB
VK2TK	John	17 SSB
VK3CAT	Tony	16
VK3TLW	Mark	15 SSB
VK3ZUX	Denis	15 SSB
VK2ZT	Steve	14 SSB
VK3BG	Ed	14 SSB
VK4KZR	Rod	14
VK5BC/p	Brian	14 SSB
VK4CDI	Phil	13
VK4CDI	Phil	13 SSB
VK4TZL	Glenn	13
VK6KZ	Wally	13
VK2KOL	Colin	12 SSB
VK2KRR	Leigh	11 FM
VK3AL	Alan	10 SSB
VK3YB	Phil	10
VK2AMS	Mark	9 SSB
VK2TG	Bob	9 SSB
VK3BBB	Brian	9
VK3VHF	Rhett	9 SSB
VK3CJK	Chris	8 SSB
VK4TJ	John	8 SSB
VK6KZ/p	Wally	8
VK7MO	Rex	7 Digi
VK2FLR	Mike	6
VK6DXI	Mirek	6
VK2KU	Guy	5 Digi
VK3HV	George	5 SSB
VK1WJ	Waldis	4 SSB
VK3KAI	Peter	4 Digi
VK3PY	Chas	4 Digi
VK3QM	David	4 Digi
VK3ZYC	Jim	4 SSB
VK4EME	Allan	4 SSB
VK3DMW	Ken	3
VK3VHF	Rhett	3 Digi
VK4CDI	Phil	3 Digi
VK2EAH	Andy	1 SSB
VK2TK	John	1 Digi

432 MHz EME

VK4KAZ	Allan	14 CW
VK7MO	Rex	10
VK7MO	Rex	9 Digi
VK4CDI	Phil	8 Digi
VK2SN	Sean	6 Digi
VK3NX	Charlie	5
VK3HZ	David	4
VK2KRR	Leigh	1
VK3AXH	Ian	1 Digi
VK3VHF	Rhett	1 Digi

1296 MHz Terrestrial

VK3QM	David	39 SSB
VK3PY	Chas	38 SSB
VK3NX	Charlie	36
VK2ZAB	Gordon	29 SSB
VK3ZLS	Les	26 SSB
VK2KU	Guy	25
VK2KU	Guy	22 SSB
VK3EK	Rob	20 SSB
VK3KAI	Peter	20
VK3KAI	Peter	19 SSB
VK3KWA	John	19
VK2DVZ	Ross	18 SSB
VK3WRE	Ralph	17 SSB
VK3BDL	Mike	14 SSB
VK3HZ	David	14
VK3BJM	Barry	13 SSB
VK7MO	Rex	11 SSB
VK2TK	John	10 SSB
VK3BG	Ed	10 SSB
VK3UDX	Geoff	10 SSB
VK4KZR	Rod	10
VK3TLW	Mark	8 SSB
VK3AL	Alan	7 SSB
VK4TZL	Glenn	6
VK3HV	George	5 SSB
VK3VHF	Rhett	5 SSB
VK3ZUX	Denis	5 SSB
VK3ZYC	Jim	5
VK4TJ	John	5 SSB
VK6KZ/p	Wally	5
VK2KRR	Leigh	4
VK3BVP	Shane	4
VK3YB	Phil	4
VK3ZYC	Jim	4 SSB
VK4CDI	Phil	4
VK6KZ	Wally	4
VK2KU	Guy	3 Digi
VK2ZT	Steve	3 SSB
VK3BBB	Brian	3
VK4CDI	Phil	3 SSB
VK6DXI	Mirek	3
VK2FLR	Mike	2
VK3CJK	Chris	2 SSB
VK3CY	Des	2
VK3DMW	Ken	2
VK3KAI	Peter	2 Digi
VK3QM	David	2 Digi
VK3ZYC	Jim	1 Digi
VK4CDI	Phil	1 Digi
VK5BC	Brian	1 SSB
VK7MO	Rex	1 Digi

1296 MHz EME

VK7MO	Rex	26
VK7MO	Rex	23 Digi

2.4 GHz Terrestrial

VK3PY	Chas	14 SSB
VK3QM	David	14 SSB
VK3NX	Charlie	13
VK3WRE	Ralph	10 SSB
VK3KAI	Peter	7 SSB
VK3EK	Rob	5 SSB
VK3HZ	David	5
VK3HV	George	4 SSB
VK6KZ	Wally	4
VK3BJM	Barry	3 SSB
VK3KAI	Peter	2 Digi
VK3VHF	Rhett	2 SSB
VK4KZR	Rod	2
VK2DVZ	Ross	1 SSB
VK3BG	Ed	1 SSB
VK3TLW	Mark	1 SSB
VK3ZUX	Denis	1 SSB
VK4TZL	Glenn	1

2.4 GHz EME

VK7MO	Rex	2 Digi

3.4 GHz

VK3NX	Charlie	11
VK3QM	David	9 SSB
VK3WRE	Ralph	7 SSB
VK3KAI	Peter	6 SSB
VK3HV	George	4 SSB
VK6KZ	Wally	4
VK3EK	Rob	3 SSB

5.7 GHz Terrestrial

VK3NX	Charlie	12
VK3WRE	Ralph	9 SSB
VK3QM	David	8 SSB
VK3KAI	Peter	7 SSB
VK6KZ	Wally	4
VK3BJM	Barry	2 SSB
VK3EK	Rob	2
VK3HV	George	2 SSB
VK3KAI	Peter	2 Digi
VK6BHT	Neil	2 SSB
VK3ZUX	Denis	1 SSB

5.7 GHz EME

VK3NX	Charlie	8

10 GHz Terrestrial

VK3NX	Charlie	11
VK3QM	David	11 SSB
VK3KAI	Peter	9 SSB
VK3PY	Chas	9 SSB
VK3WRE	Ralph	9 SSB
VK6BHT	Neil	9 SSB
VK3EK	Rob	5 SSB
VK6KZ	Wally	5
VK3HV	George	4 SSB
VK3HZ	David	4
VK3TLW	Mark	3 SSB
VK3ZYC	Jim	3 SSB
VK5ACY	Bill	3 SSB
VK2EI	Neil	2 SSB
VK3BJM	Barry	2 SSB
VK3DMW	Ken	2
VK3ZUX	Denis	2 SSB
VK7MO	Rex	2
VK3BG	Ed	1 SSB
VK4KZR	Rod	1
VK4TZL	Glenn	1

10 GHz EME

VK3NX	Charlie	10

24 GHz

VK6BHT	Neil	3 SSB
VK2EI	Neil	2 SSB
VK3NX	Charlie	2
VK6KZ	Wally	2

474 THz

VK3CJK	Chris	3
VK3HZ	David	2
VK7MO	Rex	2
VK7TW	Justin	2
VK7HAH	Ben	1 Digi
VK7MO	Rex	1 Digi
VK7TW	Justin	1 Digi

Additions, updates and requests for the guidelines to Guy VK2KU, vk2ku@clearmail.com.au.

The guidelines (and the latest League Table) are also available on the website of the NSW VHF Dx Group at www.vhfdx.radiocorner.net - click on Gridsquares.

Next update of this table will close on 7 December 2007.

Stations who do not confirm their status for more than 12 months may be dropped from the table.

ar

AMSAT

Bill Magnussen VK3JT

ISS Supporting packet operations again

Regular packet operators will be pleased to learn that the Kenwood radio on ISS has again been turned on and configured to run packet radio operations. This happened in September and world wide activity has been reported. It seems a lot of people were waiting for packet operations to return to ISS.

GO-32 (TECHSAT-1B) and 9600 baud operations

Do you have your old 9600 baud gear gathering dust in a cupboard? Nostalgic for the halcyon days of the 9600 baud Surrey satellites? Why not dust it off and hook up to GO-32? It is there waiting and it is carrying lots of traffic. Reports from USA and Europe tell of the PB queue being filled with callsigns. Remember the days when UO-23 would be similarly active? I certainly do and there must be many a 9600 baud modem stored away with cables waiting for the right moment. Dig it all out and connect it all up again. You could be surprised.

The AMSAT group in Australia

The National Co-ordinator of AMSAT-VK is Graham Ratcliff VK5AGR. Contact Graham if you wish to be placed on a mailing list for breaking news and net reminders. As a forum for members AMSAT-VK operates two monthly nets.

AMSAT-Australia Echolink Net

The "Echolink" net meets on the second Sunday of each month. Anyone with an interest in Amateur Radio Satellites is welcome to join the net. Graham VK5AGR acts as net controller. The net starts at 0500 UTC during summer time periods and 0600 UTC during winter standard time periods. Connect to the AMSAT conference server on Echolink a few minutes before these times.

AMSAT-Australia HF net

The HF net meets informally on the second Sunday of each month. In winter (end of March until the end of October) the net meets on 3.685 MHz at 1000 UTC. In summer (end of October until end of March) the net meets on 7.068 MHz at 0900 UTC. Start listening 15 minutes before these times.

All communication regarding AMSAT-Australia matters can be addressed to:

AMSAT-VK
9 Homer Rd
Clarence Park SA 5034

Graham's e-mail address is:
vk5agr@amsat.org

Delfi-C3 launch delayed until December

The Delfi-C3 team has been informed by its launch broker that the launch of Delfi-C3 has been moved to December 2007. The two major factors that have contributed to the postponement of the launch are weather and the Indian launch schedule. The weather effect on the launch is the typhoon season in India, which lasts from mid-October until December. The launch schedule is dependent on mission priorities. In the meantime the Delfi-C3 team will continue to work on further testing parts of the satellite and preparing for the operations phase. As soon as more information regarding the launch of Delfi-C3 is available it will be added to the Delfi-C3 website. Delfi-C3 will have a telemetry downlink in the amateur satellite segment of the VHF amateur radio frequency band. Telemetry decoding software will be made available to participating amateur radio operators and universities which allows them to decode and display real time telemetry. This software will allow for uploading received telemetry data to the central Delfi-C3 ground station via the Internet for processing. The Delfi-C3 team would like to invite all interested radio amateurs to receive, decode and forward telemetry data to the Delfi-C3 ground station. Now comes the icing on the cake! Delfi-C3 carries a mode UV linear transponder. The satellite will be in telemetry only mode for approximately the first three months of the mission, after which it will be switched to transponder mode.

Delfi-C3 Frequencies:

Primary telemetry downlink: 145.870 MHz 1200 Baud BPSK AX.25 400 mW

Backup telemetry downlink: 145.930 MHz 1200 Baud BPSK AX.25 400 mW

Linear transponder downlink: 145.880 - 145.920 MHz (inverting) 400 mW PEP

Linear transponder uplink: 435.570 - 435.530 MHz

Transponder mode beacon: 145.870 MHz CW (10 dB below transponder PEP)

Delfi-C3 represents an opportunity for telemetry buffs to make a worthwhile contribution - and in a short while for SSB operators to brush up their mode-UV skills. Latest information will be found on the Delphi web site. Be sure to down load a copy of the telemetry decoder when it becomes available. Get the old tracker going or maybe even think about going all the way with true-rule Doppler compensation. A number of software packages are available now that will do this and you have time to get it all going.

While we are on the subject .....

Dusting off gear and getting ready for P3E should be high on the list for experienced operators and newcomers alike.

When P3E is launched you can bet there will be a scramble to get gear up and running and to gain or to refresh experience in handling linear transponders.

Delphi – above – will give operators the opportunity to gain experience but you do not have to wait for it to be launched and serve its time as a telemetry-only device.

AO-7 is there right now. AO-7 was one of the early satellites amateurs had at their disposal. It served the amateur community proudly for a number of years and was instrumental in allowing many operators to get their first experience of a linear transponder. It differed from its predecessor AO-6 (which carried the first successful linear transponder) in that its orbit was something quite new.

It gave us our first taste of a high orbit – without being a HEO as such. AO-7's footprint astonished people at first, it

was huge. The footprint encompassed all of Australia, New Zealand, part of Antarctica, New Guinea and the islands to our north. VK6 could work ZL. New Guinea was easy for stations along the south coast. Antarctic satellite stations got into the act because here was a satellite that could give them the potential to contact three continents. In the northern hemisphere, trans-Atlantic contacts became commonplace.

AO-7 represented a real step forward in amateur radio satellite communication and pointed the way for the HEOs. Since its miraculous recovery from a battery problem, it has again become a popular choice. Its linear transponders allow SSB and CW and can support several QSOs at once. Numerous reports of its switching between modes A & B at random times have been received. This only adds to the excitement.

So dust off those mode A 29 MHz receivers and try to make a contact on this bird. The antenna need not be elaborate. My first contacts on mode-A were made with an indoor antenna! A one-wavelength loop of wire strung up around the picture rails in my lounge room. The uplink antenna was a simple ground plane attached to the brick chimney.

Working AO-7 will prepare you for the upcoming HEO satellites wherein linear transponders will be available in several mode mixes. AO-7 can be quiet at times so line up your contacts first and sample what this aging bird can do. The practice will improve your operating skills and it is just as much fun as it was 33 years ago. AO-7 was launched on November-15, 1974!

ar

Silent key

Les Cooper VK7LS

Family and friends mourn the death of Les Cooper VK7LS, who passed away on Tuesday, 31 July, 2007.

Les lived in Collinsvale, a small town just west of Hobart. At his passing he had been an amateur for over forty years, and was still an active member of his local radio club.

Submitted by his loving daughter, Dianne Allen

Silent keys

Thomas Debel VK4DEB

It is with sadness that I announce the death of Thomas Debel (Tom) VK4DEB who passed away in Atherton on Sunday 15 July 2007.

Tom Debel was born at the Atherton Hospital Queensland on 22 July 1923. He was educated in the small Tableland town of Kairi. He left school at the age of thirteen and joined the then PMG as a telegraph boy, working at the Kairi, Tolga and Atherton Post Offices.

He was called up for Naval service in May 1942 at the age of eighteen and after basic training he joined HMAS Warramunga as a telegraphist. He served for four years on the Warramunga and was present in Tokyo Harbour for the signing of the Japanese surrender. Tom was very proud of the friendships and experiences that were afforded him during his service. Those friendships lasted throughout his life.

After the war Tom bought a farm in Kairi and commenced poultry farming and was a founding member of the Far North Queensland Poultry Farmers Association. In 1950 Tom married Nola Austin and together they had five children and thirteen grandchildren.

Tom was an active member of the Atherton RSL and willingly gave time to speak with youth groups about his wartime experiences, around ANZAC day each year.

Tom passed his AOCP in May 1993 and was granted the call VK4DEB.

He was a long-time and active member of the Tablelands Radio and Electronics Club Inc. (TREC). He held positions on the executive committee at various times. He was a regular on the TRECNET and also on the Townsville WIT net where he would always give an accurate report on the Atherton Tableland activities.

Tom was a real gentleman and never thought badly about anyone. He had a great many friends and this was reflected at his funeral in Atherton on Thursday 19 July where approximately 300 people including local amateur operators attended. The Atherton RSL provided an honour guard.

Vale Thomas Debel VK4DEB – SK

They shall grow not old, as we that are left grow old:
Age shall not weary them, nor the years condemn
At the going down of the sun and in the morning
We will remember them.
LEST WE FORGET

L Binyon
from *For the Fallen* 1914

submitted by Dale McCarthy VK4DMC

Donald T M Connor VK2KJX

With sadness I report the passing of Don Connor VK2KJX, on Saturday 15 September 2007, at the age of eighty five.

After a recent return from Western Australia, Don had not been well. In fact, just a few days before his death, Don notified his club, the Central Coast ARC that he would not be available for net or call-back duties for a few weeks due to his illness.

Don was first licensed as VK2MJX before upgrading to VK2KJX. He was active in Central Coast ARC activities during his sixteen years of membership, including being on the Newsletter team, being a keen field day worker and WIA News call-back team co-ordinator, just to mention a few roles.

Don will be missed by many fellow club members, and the hobby at large.

Vale Don VK2KJX.

Submitted by Leigh VK2KAL

DX – News & Views

John Bazley VK4OQ
P.O. Box 7665, Toowoomba Mail Centre, QLD 4352.
Email - john.bazley@bigpond.com

Well I know that some of our readers really do not like contests, but looking at them, (contests I mean!), purely from a DX point of view they are an excellent way of working rare countries on various bands. The two major DX events – CQWW SSB and CQWW CW are always held on the last full weekend of October and November respectively. For those not interested in either there is still 10, 18 and 24 MHz that remain, and in my opinion rightly so, contest free sections of the allocated spectrum.

Recently I have seen several references to the success of PSK under the poor band conditions that we have been experiencing for the past few months. Quite frequently 20 and 40 metres in particular have supported solid DX contacts on PSK when there has been no other activity at all. If you have not tried PSK yet, may I suggest that you consider that mode.

Talking of poor conditions gives me a suitable opportunity to once again highlight the IARU Beacon programme. A wonderful tool for judging propagation, if you do not have the details they are available at http://www.ncdxf.org/beacons.html

QSLs

Sad to say that Osten SM5DQC is now a Silent Key. He has been QSL Manager for 9Q1EK and 9Q1TB.

Now to planned DX activity:

OH0 A lot of activity is planned from here during CQ contests!

OH0Z, Aland Islands, will be on for the CQWW CW November 24-25, single operator, single-band 15 metres. The operator will be Ari OH5DX, who requests that all QSLs go via W0MM.

OH1JT will also be on from the Aland Islands in the CQWW CW single operator single band, possibly 80 or 20 metres. He has not decided band or callsign yet.

OH0AW will also be active, single operator, single band 40 metres. QSL via OH5DX.

OH0I will be the callsign used by Juha OH9MM. Juha plans to operate single band, single operator on 160 metres. QSL via OH9MM.

T88 Francesco Di Michele I2DMI, and his wife Giovanna plan to spend their Christmas holiday in Palau. Frank plans to be QRV as T88RY on RTTY only from December 26th through January 1st. While there, he will be putting an emphasis on working Europe and North America in his spare time. He is looking for comments on propagation, which can be sent to t88ry@yahoo.com. In September, Frank will update his T88RY listing on QRZ.com including suggested frequencies. He will also have an on-line log search. QSL via I2DMI, Francesco Di Michele, P.O. Box 55, 22063 CANTU, ITALY.

T88WV will be participating in the CQWW CW contest November 24-25 with OH7WV operating. He will be single operator all band. He will operate casually for one or two days before and after the CQWW. QSL via OH7WV direct or bureau.

5X Nick G3RWF has planned a trip to Uganda in late November, including participation in the CQWW CW DX Contest. Look for 5X1NH from November 21st to the 30th. First from Kampala between the 21st and 26th and then in Western Uganda for the remaining days. Activity will mostly be on the low bands along with 12, 17 and 30 meters. He will be doing CW, SSB, RTTY and PSK. QSL via G3RWF.

3X G3SXW and the Voodoo Contest Group are going to 3X, Guinea, in November for a sizeable operation. Roger said, "We will move our one ton of equipment overland from Mali where we have operated as TZ5A for the past two years." The eight-man team this year is AA7A, G3SXW, G4BWP, G4IRN, GM3YTS, K4UEE, K5VT and KC7V. The 3X callsigns are not being reported yet. QSL the contest operation via G3SXW and individual 3X callsigns to their home call. The Voodoo group will be multi-multi with monoband antennas for all six bands and kW amplifiers. "This time we will be immediately beside saltwater, a real luxury!" AA7A and KC7V will do some EME for several days before the CQWW CW contest.

XF4 Mexicana de Radio Experimentadores (FMRE) President Carlos Levy XE1YK announced he and three other XE ops have obtained permission from the Mexican Navy to visit and operate from Socorro Island, Revillagigedo (XF4), by the year's end in celebration of FMRE's 75th anniversary. Joining him will be Pepe XE2MX, Eduardo XE2YW and Manuel XE1VVD for an expected 30 day operation. The XE Navy will be providing transportation to and from the islands. The expected dates are November 15th to December 15th. A detailed schedule is expected to be announced soon. Plans are to use the calls 6E4LM and XF4YK.

P40 Kay K6KO will be on from Aruba as P40K from November 28th to December 18th. QSL via WM6A.

C6 C6AKX, the Bahamas, will be in the CQWW CW with KE7X operating low power. He will be single operator single band 20 m. QSL via WA4WTG. His inclusive dates are November 18th to the 26th November.

A35 Kingdom of Tonga I received the following e-mail from VK2CCC:

Operation will take place between 19 November - 26 November 2007. Call yet to be confirmed. Ops: LY1F. QSL route: via VK2CCC. The main operation is expected from Tongatapu group, OC-049. Focus on low bands, CW. Operation will include CQ WW DX CW Contest. Expedition photos & info will be posted on my website www.qrz.lt/ly1df"

C56 C56JJ will be on the air again from November 30th until December 7th. Operator Jan PA4JJ says he will probably have an on-line log this time on his Web site, http://c56jj.pa4jj.nl

HK0 San Andreas Tom K3WT, Vlad N0STL, Bill W0OR and Ron N0AT will be active as HK0/homecall from San Andreas Island (NA-033) from 19th November until 27th November. They will participate in the CQWW DX CW Contest as 5J0A (Multi-Single). QSL 5J0A via W0JAR, others via home calls, direct or bureau.

C9 Wayne W5KDJ will be active as

C91KDJ from Mozambique from 15th November until 28th November. He will operate on 160-10 metres CW (maybe also RTTY), with a focus on 160 and 80 metres. QSL via home call. Logs will be uploaded to LoTW. Further information at http://www.tdxs.net/c91kdj.html

VP2E Andy DL5CW and Marina DM5YL will be active from Anguilla (NA-022) from 8th November until 26th November including CQWW CW Contest. Probably their callsigns will be VP2EDL and VP2EDM. They plan to operate mostly CW (Andy) and RTTY/PSK31 (Marina) on the HF bands. QSL via home calls, direct or bureau.

XU7 Retu OH4MDY/XU7MDY reports that XU7MDY is again QRV, 24 October to 12 November 2007. Modes are CW/SSB and perhaps PSK31. QSLs only direct via OH4MDY. The address is okay in qrz.com. CW activities are planned on following frequencies: 1822, 3502, 7003, 10105, 14007, 21007, 24897 and 28020 kHz.

Happy DXing!

Special thanks to the authors of The *Daily DX (W3UR)*, *425 DX News (I1JQJ)*, VK2CCC and G3SXW for information appearing in this month's *DX News & Views*. For interested readers you can obtain from W3UR a free two week trial of The Daily DX from www.dailydx.com/order.htm

ar

Silent key

Geoffrey A Warner VK2HJ

It is my sad privilege to advise of the passing of Geoff Warner VK2HJ on 21 August, 2007, at the age of 92.

Geoff was born at Wyong on 4 December, 1914. He was educated at Wyong Public School, and Newcastle Church of England Grammar.

He developed an early interest in wireless, then coming into popular use. He left school at 16, and took odd jobs, mostly in the area of wireless set servicing, and as a projectionist at the local cinema. As well, he had undertaken study for the Amateur Radio Operators Certificate and, in 1930, became one of the youngest amateur radio operators, with the callsign VK2CK. The licence fee paid was 25 cents.

In later years he was the prime instigator in establishing the event we all now know of as the Wyong Field Day.

In 1934 he gained his First Class Commercial Radio Certificate. Shortly thereafter, in 1935, he joined Guinea Airways Limited, initially at Lae and later Wau, before joining Amalgamated Wireless Australasia (AWA) in Port Moresby in 1937.

During this period he met Lillian Joyce Lewis, whom he married in 1939, and they produced two daughters Helen and Rosemary, who survive him.

In 1946 he was employed by the Overseas Telecommunications Commission (OTC) where he served in various areas, including some co-operative involvement with NASA during the moon landing program, until he retired as manager of the Bringelly Radio Receiving Centre in December, 1979.

After his retirement Joyce and Geoff settled in Camden. Joyce passed away in May 1995, after a long illness.

Geoff remained at the same address until 14 August last, when he had a serious fall, which resulted in his admission to Campbelltown Hospital, and his passing just one week later.

He will be sadly missed by all who came to know and respect him.

Vale Geoff VK2HJ.

Submitted by Frank D. Barsanti VK2FDB.

Hamads *classifieds* FREE

FOR SALE NSW

• AR8 wartime comm Rx in good working order, converted to 240 V ac. Offers wanted. Brian mndleech@bigpond.com

• TELEGRAPH BOOKS: 1). *Morsum Magnificat* Collection, Issues 20, 21, 24 and 26 to 87. Mint condition in plastic folders a total of 65 magazines now out of print, $350. 2). *Wireless for the Warrior,* Volume 1, Wireless Sets No 1- 88, by Louis Meulstee , mint in plastic cover. $25.00. 3). *American Telegraphy* and *Encycolopedia of the Telegraph* by William Maver Jr 570 pages, mint $65.00. 4). *The Telegraph. A History of Morse's Invention and Its predecessors in the USA* ,by Lewis Coe 184 pages, mint $30.00. 5). *History, Theory and Practice of the Electric Telegraph* by George B Prescott 512 pages Excellent condition $30.00. 6). *Your Gateway to Packet Radio* by Stan Horzepa. $10.00. 7). *Packet Users Notebook* by Glynn Buck Rogers $10.00. 8). *Prime Packet radio made Easy* by Buck Rogers $10.00. 9). *Ritty Today* by Dave Ingram $20.00. 10). *The Dawn of Australia's Radio Broad Casting* $5.00. 11). *The Year Book of Wireless Telegraphy and Telephony*, heavy 930 pages very old book open to offers... 12). *ABC Telegraphic Code* Fifth Edition 1901, water damage to outside covers, heavy 1400 pages. Open to offers. 13). Hi Mound Parts HK-702 Morse Key offers. 14). Icom carry cases for IC-xGAT hand held radios, 2 of in protective covers brand new $15.00 each. 15). *Instant Morse* CD ROM by the RSGB Morse Teaching Program and more $15.00. 16). *Ham Stories* by Robert W.Betts $20.00. 17). *McElroy, world's champion radio telegrapher* by Tom French, 155 pages excellent condition $45.00. 18). *Morse Key Arm Tensioners* by D.J.Goacher Descriptions of the various styles of spring used in the manufacture of Morse Keys. $50.00. Buyer to pay for Postage as some books are rather heavy. This is a private collection of Telegraph Books and I also have around 500 keys, hand and semi auto for sale. Stephen Smith VK2SPS, phone H 02 9456 0130, M 0415-559-784, email Vk2sps@froggy.com.au

• YAESU FT-7100M dual band VHF/UHF 50/35 W, Rx 108-999. Remote head, 262 memory, CTSS/DCS. Hardly used, looks as new, in original box $450. VK2AYC. 02 9583 2056

• DRAKE L7 amplifier + manual, very good condition. Still 1 kW output. Price $1900. Buyer collect preferred. AUTEK Research VA1 antenna analyst. Price $230 plus postage. Tom VK2OE, 3 Buller St, Bonalbo NSW 2469, wojiech.tomczyk@education.nsw.gov.au (preferred contact).

• OZI-POLE portable dipole kits complete and ready to assemble. Covers 40 – 6 metre bands (80 m add on under test) and is ideal for balcony use, clamped to a picnic table or pedestrian use. A great build-it-yourself project that you can use with pride from the MNCARG Inc. P.O. Box 505 Bellingen NSW 2454. Visit http://www.mncarg.org/ or email mncarg@yahoo.com.au. Price $99 + post.

WANTED NSW

• Early TEN-TEC Argonaut Tx/Tx, types 509 or 515, others except 516F. Phone 02 6677 9292, write VK2KSD QTHR, evenings best.

• FM board UI-9 to suite ICOM IC-707 txcvr or info of a possible source will be appreciated. Charlie VK2FDMJ 0243 584 549

FOR SALE VIC

• TS-480-HX txr 200 W ATU, $1490. As new, must sell. Call VK3GMM 03 5985 2671.

• YAESU FT-680R (Serial No. OL030373) 6 m all mode transceiver with manual. Included in price 6 m J-pole antenna & 6 m pre-amp. $220 ono. Telephone Ian VK3YIC 0409 217 101. Email ianrob@ncable.net.au

• FREE: American TELREX 5 element tribander beam 20, 15, 10 m with rotator and emotor model 1102 MXX to be removed from Nally tower. Valda VK3DVT 03 9592 6236

WANTED QLD

• KENWOOD TS-440s for spare parts. Advise cost and postage.VK4KKN 07 4973 6949 or email kknbarry@lizzy.com.au

FOR SALE SA

• The very popular VK5JST Antenna Analyser kits (see AR article May 2006). Build yourself an extremely useful item for your shack, and improve your HF antenna efficiency. For more details see www.scarc.org.au; contact SCARC PO Box 333 Morphett Vale SA 5162, or email: kits@scarc.org.au

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• Sliding contacts round or rectangular carbon for variac transformer, WARBUTON type 2A. Will pay right price for it. VK5ZJB Brunet 993 Route Gallinieres Commelle-Vernay 42120 France.

• I am looking for a schematic for the 1963 vintage HEATHKIT Jr "Transistor Diode Radio Kit," or better still, the radio itself. The radio was marketed as the Model R-110. I'd be interested in the kit's instructions, assembly notes, or any other diagram that accompanied the kit. Phone Hank VK5JAZ on mobile: 0403 285 940 or email vk5jaz@hotmail.com

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Broadcast details

VK1 VK1WIA: Sunday 1100 local, on 7.128, 146.950 and 438.050 MHz.
Email newsletter, on request, via president@vk1.ampr.org

VK2 VK2WI: Sunday 1000 and 1930 local, on 1.845, 3.595, 7.146, 10.125, 14.170, 28.320, 52.525, 145.600, 147.000, 438.525 and 1273.500 MHz.
Plus regional relays on 5.425 MHz USB (morning). VK1WIA news is included in the morning.

VK3 VK1WIA: Sunday 1030 and 2000 local, on 3.615, 7.085, 10.130, 146.700, 147.250 and 438.075 MHz.

VK4 VK1WIA: Sunday 0900 local via HF and major VHF/UHF repeaters.

VK5 VK5WI: Sunday 0900 local, on 1.843, 3.550, 7.140, 28.470, 53.100 AM, 146.900 (SE), 146.925 (CN), 147.000 and 439.975

VK6 VK6WIA: Sunday 0930 local, on 1.865, 3.564, 7.075, 10.125, 14.116, 14.175, 21.185, 29.120, 50.150, 146.700 and 438.525 MHz.
Country relays on 3.582 MHz and major repeaters.
Repeated Sunday, 1900 local, on 1.865, 3.564, 146.700 and 438.525 MHz. Country relays on major repeaters.
Also in 'Realaudio' format from the VK6WIA website.

VK7 VK7WIA: Sunday 0900 local, on 1.840 AM and 3.570 MHz and on major repeaters.
VK7 regional news follows at 0930 local, on 7.090 and 14.130 MHZ, and on major repeaters.

VK8 Sunday 0900 local, on 3.555, 7.050, 10.130 and 146.900 MHz.

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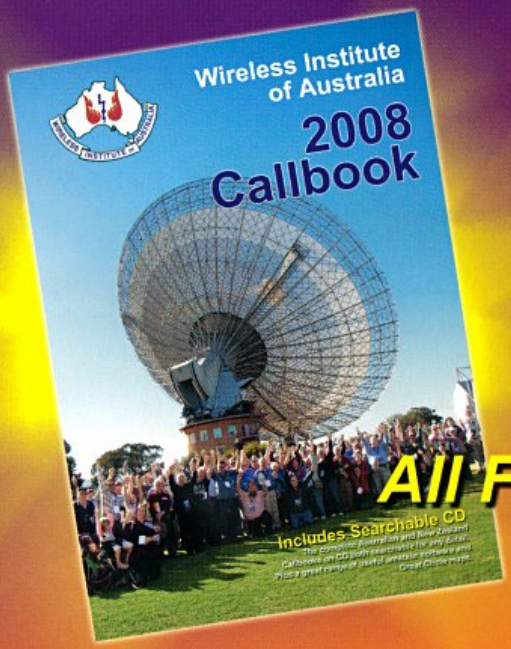

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